

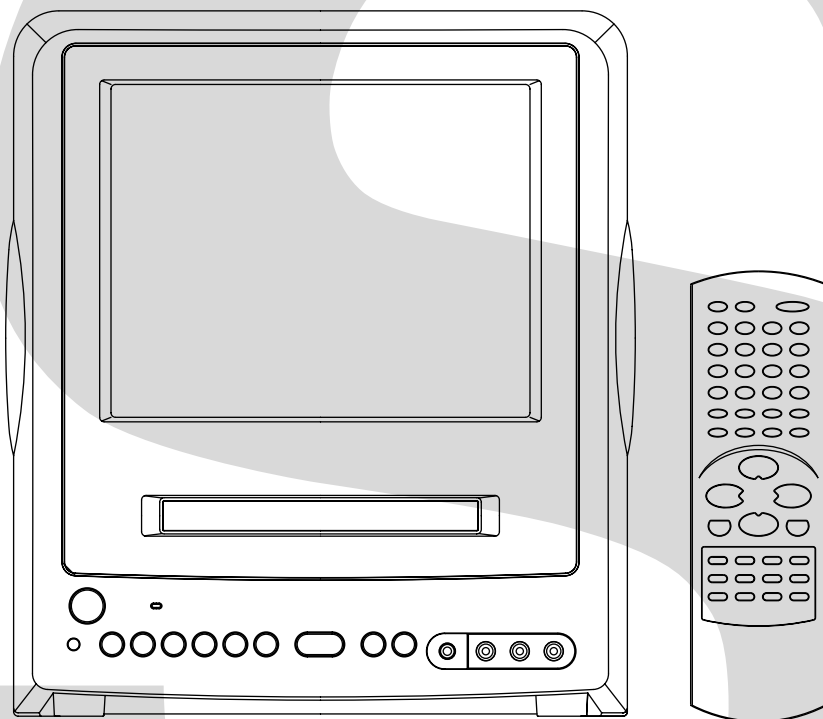
TOSHIBA

FILE NO. 140-200327

SERVICE MANUAL

COLOR TELEVISION/ DVD VIDEO PLAYER

MD9DN1R



CAUTION

THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

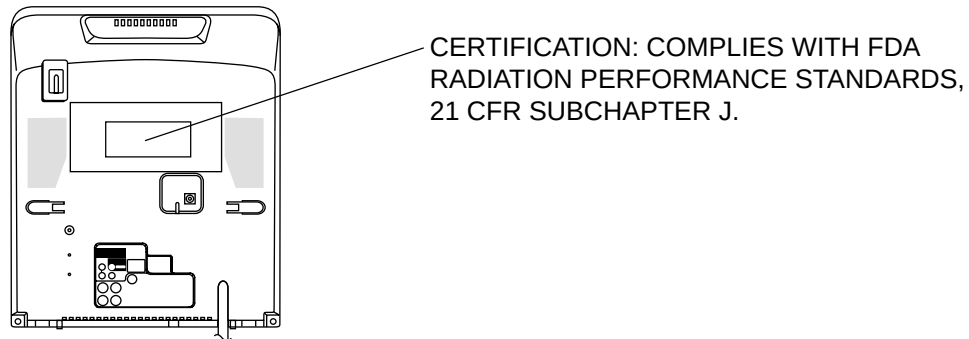
TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking

The rating sheet and the safety caution are on the rear of the unit.



SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. ATTACHMENTS

Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. VENTILATION

Slots and openings in the cabinet and in the back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. POWER SOURCES

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. LIGHTNING

To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

18. SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the unit.
- If the unit has been exposed to rain or water.
- If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- If the unit has been dropped or the cabinet has been damaged.
- When the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. WALL OR CEILING MOUNTING

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

23. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

24. DISC TRAY

Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.

25. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

26. SOUND VOLUME

Reduce the volume to the minimum level before you turn on the product. Otherwise, sudden high volume sound may cause hearing or speaker damage.

27. SOUND DISTORTION

Do not allow the product output distorted sound for a longtime. It may cause speaker overheating and fire.

28. HEADPHONES

When you use the headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.

29. LASER BEAM

Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

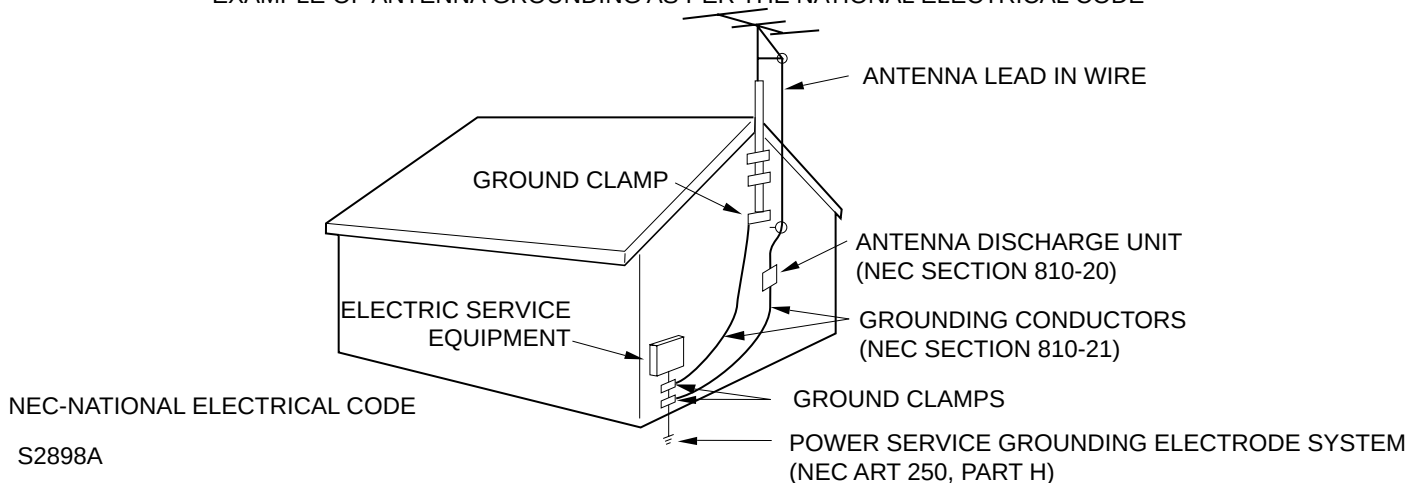
30. DISC

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

31. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and AV PCB/DVD Block. (Refer to item 1 of the **DISASSEMBLY INSTRUCTIONS.**)
2. Slide the Rack Loading (White) toward the arrow direction by using a minus driver to release the lock. (Refer to Fig. 1)
3. Draw the Tray.

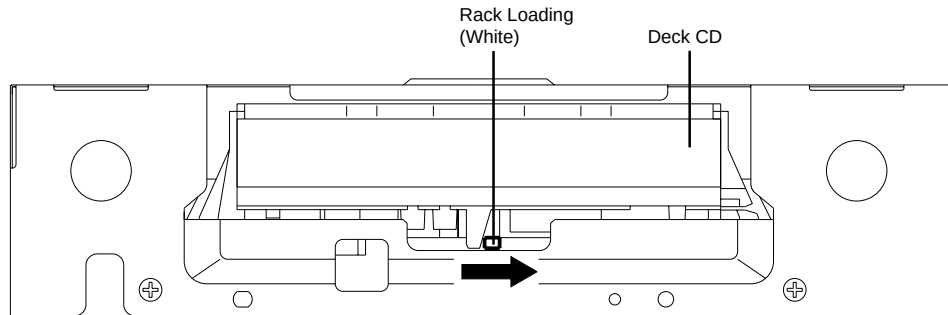


Fig. 1

PARENTAL CONTROL - RATING LEVEL 4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the '7' key on the remote control unit.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared.

TRAY LOCK

Tray cannot be opened by setting the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press and hold the '9' key on the remote control unit.
4. Simultaneously press and hold the 'STOP' key on the front panel.
5. Hold both keys for more than 3 seconds.
6. Press the OPEN/CLOSE key on the front panel to check the Tray Lock setting.

NB: No indications on the screen when the Tray Lock is setting.

To unlock the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Set the VOLUME to minimum.
4. Press and hold the 'VOL. DOWN' button on the front panel.
5. Simultaneously press and hold the '4' key on the remote control unit.
6. Hold both keys for more than 1 second.
7. The On Screen Display message 'INITIALIZE5 COMPLETE' will appear.
8. The Tray Lock has now been cleared.

NB: The above procedure will reset ALL of the player's settings to the default factory state.

TABLE OF CONTENTS

CAUTION	A1-1
SERVICING NOTICE ON CHECKING	A1-2
HOW TO ORDER PARTS	A1-2
IMPORTANT SAFEGUARDS	A1-3, A1-4
DISC REMOVAL METHOD AT NO POWER SUPPLY	A1-5
PARENTAL CONTROL-RATING LEVEL	A1-5
TRAY LOCK	A1-5
TABLE OF CONTENTS	A2-1
GENERAL SPECIFICATIONS	A3-1~A3-12
DISASSEMBLY INSTRUCTIONS	
1.REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS	B1-1, B1-2
2.REMOVAL OF DVD DECK PARTS	B2-1~B2-4
3.REMOVAL OF ANODE CAP	B3-1
4.REMOVAL AND INSTALLATION OF FLAT PACKAGE IC	B4-1, B4-2
SERVICE MODE LIST	C-1
CONFIRMATION OF USING HOURS	C-1
WHEN REPLACING EEPROM(MEMORY) IC	C-2
ELECTRICAL ADJUSTMENTS	D-1~D-6
BLOCK DIAGRAMS	
DVD ST SOLUTION	E-1, E-2
TV	E-3, E-4
POWER	E-5, E-6
PRINTED CIRCUIT BOARDS	
DVD	F-1, F-2
AV/CRT	F-3~F-6
POWER/RELAY/SW	F-7, F-8
SCHEMATIC DIAGRAMS	
RF_AMP/DSP	G-1, G-2
MOTOR DRIVE	G-3, G-4
MPEG	G-5, G-6
MEMORY	G-7, G-8
AUDIO/VIDEO	G-9, G-10
REGULATOR2	G-11, G-12
REGULATOR	G-13, G-14
MICON/TUNER	G-15, G-16
VIF/SIF/CHROMA	G-17, G-18
SOUND AMP	G-19, G-20
IN/OUT	G-21, G-22
STEREO	G-23, G-24
DEFLECTION	G-25, G-26
CRT	G-27, G-28
POWER	G-29, G-30
SW/RELAY/FG	G-31, G-32
INTERCONNECTION DIAGRAM	G-33, G-34
WAVEFORMS	H-1~H-3
MECHANICAL EXPLODED VIEW	I1-1, I1-2
DVD DECK EXPLODED VIEW	I2-1
MECHANICAL REPLACEMENT PARTS LIST	J1-1
DVD DECK REPLACEMENT PARTS LIST	J2-1
ELECTRICAL REPLACEMENT PARTS LIST	J3-1~J3-6

GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	9 inch / 228.6 mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G / 0.18G
		Color System		NTSC
G-2	DVD System	Speaker	Position Size Impedance	2 Speaker Side 3 inch 8 ohm
		Sound Output	Max 10%(Typical)	1.2W + 1.2W 0.8W + 0.8W
		Color System		NTSC
		Disc		DVD, CD-DA, CD-R/RW, Video CD
		Disc Diameter		120 mm , 80 mm
		Deck	Disc Loading System Motor	Front Loading 2 Motors
		Pick up		1-Lens 2-Beams System
		Playback time(Max)	DVD DVD 1-Layer DVD 2-Layer CD Video CD	135min (4.7GB) 245min (8.5GB) 74min 74min
		Search speed		Fwd 2-15 times / 4 step (DVD, Video CD) 2-20 times / 4 step (CD) 2-45 times (DVD, Video CD) 4-40 times (CD)
			Actual	
				Rev 2-15 times / 4 step (DVD, Video CD) 2-20 times / 4 step (CD) 2-45 times (DVD, Video CD) 4-40 times (CD)
			Actual	
		Slow speed		Fwd 1/8-1/2 times --
			Actual	
			Actual	Rev 1/8-1/2 times --
G-3	Tuning System	Broadcasting System		US System M
		Tuner and Receive CH	System	1Tuner
			Destination	US(w/CATV)
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 Ohm
			CH Coverage	2~69, 4A, A-5~A-1, A~I, J~W, W+1~W+84
		Intermediate Frequency	Picture(FP) Sound(FS) FP-FS	45.75MHz 41.25MHz 4.50MHz
		Preset CH		No
		Stereo/Dual TV Sound		US-Stereo
		Tuner Sound Muting		Yes
G-4	Signal	Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	65dB
			Horizontal Resolution at DVD Mode	400 Lines (TV Monitor) 500 Lines (Video Out)
		RGB Signal	Output Level	--
		Audio Signal	Input Level	-8.0dBm/50k ohm -8 dBm/ 1k ohm (TV Mode, 0dB=0.775Vrms) -12dBm/ 1k ohm (DVD Mode, -20dBFS 0dBFS=2.0Vrms)
			Output Level	
			Digital Output Level	0.5 V p-p/75 ohm
			S/N Ratio at DVD (Weighted)	90 dB
			Harmonic Distortion	0.06% (1kHz)
			Frequency Response :	4Hz - 22kHz
			at DVD	
			at Video CD	4Hz - 20kHz
			at CD	4Hz - 20kHz
G-5	Power	Power Source	AC DC	120V, 60Hz 12 V
		Power Consumption		55W at 120V 60Hz 55W at 12V 5 W at 120V 60Hz -- kWh/Year
			Stand by (at AC) Per Year	
		Protector	Power Fuse	Yes

GENERAL SPECIFICATIONS

G-6	Regulation	Safety Radiation X-Radiation Laser	UL FCC DHHS DHHS
G-7	Temperature	Operation Storage	+5oC ~ +40oC -20oC ~ +60oC
G-8	Operating Humidity		Less than 80% RH
G-9	On Screen Display	Menu(TV) Menu Type Picture Brightness Contrast Color Tint Sharpness Sound Bass Treble Balance CH TV/CATV Add/Delete Auto CH Memory Option V-Chip Language Open Close Clock Clock Set On/Off Timer Sleep Timer CH / AV(LINE) / DVD Stereo/Audio Output Bilingual SAP Caption / Text Auto Search/Position Game Volume Mute	Yes Icon Yes Yes Yes Yes Yes Yes No No No No Yes Yes Yes Yes Yes Yes Yes No No No Yes Yes Yes Yes No Yes Yes Yes Yes

GENERAL SPECIFICATIONS

G-10	On Screen Display	Menu (DVD)		Yes
		Menu Type		Character
		Language		Yes
		OSD Language		Yes
		Menu		Yes
		SubTitle		Yes
		Audio		Yes
		Picture		Yes
		TV Screen Size		Yes
		OSD Display On/Off		Yes
		Sound		Yes
		DRC (Dynamic Range Control)		Yes
		dts Decode		No
		Output(5.1ch/ 2ch)		No
		Surround On/Off		No
		Center On/Off		No
		Sub Woofer On/Off		No
		Parental		Yes
		Password Lock/ Un Lock		Yes
		Rating Level		Yes
		Open		Yes
		Close		Yes
		No disc		Yes
		Reading		Yes
		Play		Yes
		Still/Pause		Yes
		Stop		Yes
		Prohibit Mark		Yes
		Step		Yes
		Skip(>>)		Yes
		Skip(<<)		Yes
		Random		Yes (CD)
		Repeat		Yes
		Slow+ ##		Yes
		Slow- ##		Yes
		Search+ ##		Yes
		Search- ##		Yes
		Jump		Yes
		Resume		Yes
		Title No.		Yes
		Chapter No.		Yes
		Track No.		Yes
		Time		Yes
		Sub Title No.		Yes
		Angle No.		Yes
		Vocal On/Off		No
		Audio No.		Yes
		Audio Stereo L/R		Yes (Video CD)
		Zoom		Yes
		Marker No.		No
		Program Play Back		Yes (CD)
		Surround On/Off		No
		Screen Saver		No
		MP3		No
		Folder Name		No
		File Name		No
		File No		No
		Time		No
		Track No		No
G-11	OSD Language	(TV)	English, French, Spanish	
		(DVD)	English, French, Spanish	

GENERAL SPECIFICATIONS

G-12	Remote Control	Unit	RC-GD
		Glow in Dark Remocon	Yes
		Format	NEC
		Custom Code	71-8E h
		Power Source	3V
		Voltage(D.C)	UM-4 x 2 pcs
		UM size x pcs	
		Total Keys	45 Key
		Keys	Power
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		Play	Yes
		Stop	Yes
		Search+	Yes
		Search-	Yes
		Skip+	Yes
		Skip-	Yes
		Slow+	Yes
		Slow-	Yes
		Pause	Yes
		Call	Yes
		TV/DVD	Yes
		Cancel	Yes
		Audio Select	Yes
		Angle	Yes
		Subtitle	Yes
		Top Menu	Yes
		Set up/ Menu	Yes
		DVD Menu	Yes
		Return	Yes
		Up/ Set+/ CH Up	Yes
		Down/ Set-/ CH Down	Yes
		Left/Select-/Vol Down	Yes
		Right/Select+/Vol Up	Yes
		Select/ Enter	Yes
		Play Mode	Yes
		Closed Caption	Yes
		Input Select	Yes
		Repeat A-B	Yes
		Zoom/ Quick View	Yes
		Mute	Yes
		Open/Close	Yes
		Sleep	Yes
		Jump	Yes
		Game	Yes

GENERAL SPECIFICATIONS

G-13	Features	CATV	Yes
		Auto Shut Off	Yes
		Auto Clock	No
		Just Clock	No
		Auto CH Memory	Yes
		V-Chip	Yes
		USA V-chip	No
		CANADA V-chip	No
		Auto Search	No
		SAP	Yes
		Game Position	Yes
		FM Transmitter	No
		Energy Star	Yes
		Closed Caption	Yes
		Comb Filter	No
		Protect of FBT Leak Circuit	Yes
		Choke Coil	No
		Power On Memory	No
		Parental Lock (DVD Only)	Yes
		Tray Lock	Yes
		Video CD Playback	Yes
		MP3 Playback	No
		Digital Out	(Dolby Digital)
			(MPEG)
			(PCM)
			(DTS)
		Down Mix Out	(Dolby Digital)
			(DTS)
		Surround (Tru Surround)	No
		Screen Saver	No
G-14	Accessories	Owner's Manual	Language
			w/Guarantee Card
			Buyer Model No.
		Remote Control Unit	Yes
		Battery	Yes
			UM size x pcs
			OEM Brand
		Rod Antenna	No
			Poles
			Terminal
		Loop Antenna	No
			Terminal
		U/V Mixer	No
		300 ohm to 75 ohm Antenna Adapter	Yes
		Antenna Change Plug	No
		Guarantee Card	No
		Registration Card	Yes
		Warranty Card	No
		ESP Card	No
		Service Station List	No
		DC Car Cord (Center+)	Yes
		Columbia Offer Sheet	No
		Sheet Information (Return)	Yes[From '03 JUN O/R]

GENERAL SPECIFICATIONS

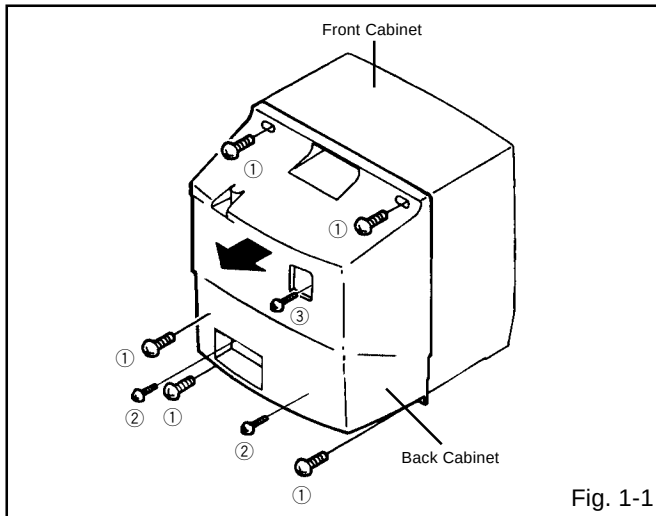
G-15	Interface	Switch	Front	Power (Tact)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Open/Close	Yes
				Skip(>>)	Yes
				Skip(<<)	Yes
				Still/Pause	No
				Stop	Yes
				Main Power SW	No
		Rear	Main Power SW	No	
			Indicator	Power	Yes (Red)
		Stand-by		No	
		On Timer		No	
		Terminals	Front	Video Input	RCA x 1
				Audio Input	RCA x 2(Stereo)
				Other Terminal	Head Phone
			Rear	Video Input	No
Audio Input	No				
Video Output	RCA x 1				
Audio Output	RCA x 2(Stereo)				
Digital Audio Output	Coaxial (DVD Only)				
Diversity	No				
DC Jack 12V(Center +)	Yes				
VHF/UHF Antenna Input	F Type				
G-16	Set Size	Approx. W x D x H (mm)	278x306x311.5		
G-17	Weight	Net (Approx.)	8.0 kg (17.6lbs)		
		Gross (Approx.)	9.1 kg (20.1lbs)		
G-18	Carton	Master Carton		No	
			Content	--- Sets	
			Material	--- / ---	
			Dimensions W x D x H(mm)	---	
			Description of Origin	---	
		Gift Box		Yes	
			Material	Double/White	
			W/Color Photo Label	No	
			Dimensions W x D x H(mm)	338x381x386	
			Design	As Per Buyer 's	
		Drop Test	Description of Origin	Yes	
			Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces	
			Height (cm)	62	
			Container Stuffing (40' container)	1260 Sets	
G-19	Material	Cabinet	Front	PS 94V0 DECABROM	
			Rear	PS 94V0 DECABROM	
			Jack Panel	-	
		PCB	Non-Halogen Demand	No	
			Eyelet Demand	Yes	

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

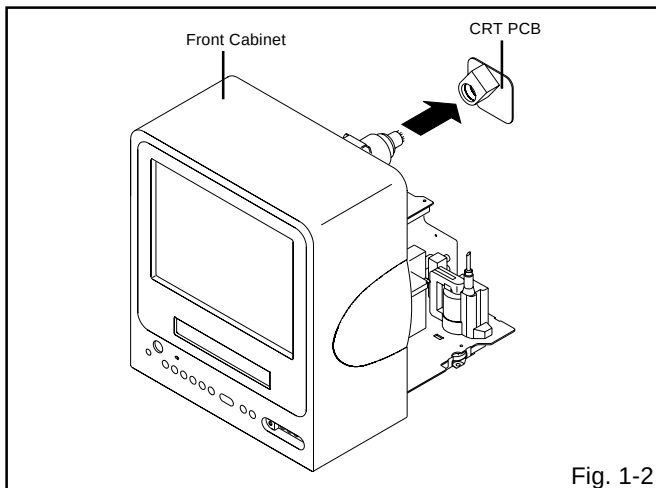
1. Remove the 5 screws ①.
2. Remove the 2 screws ②.
3. Remove the screw ③.
4. Remove the Back Cabinet in the direction of arrow.



1-2: CRT PCB (Refer to Fig. 1-2)

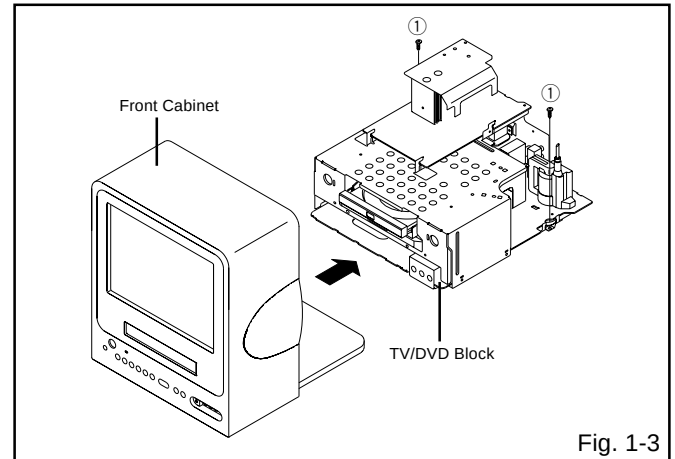
CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap.
(Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connector:
(CP801).
3. Remove the CRT PCB in the direction of arrow.



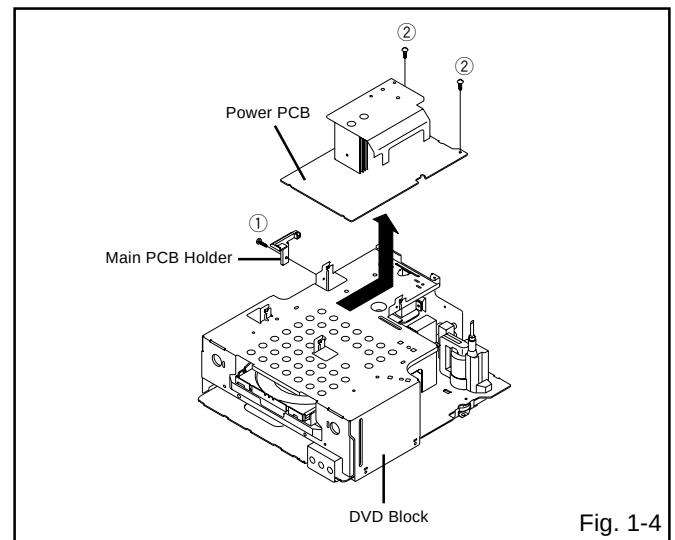
1-3: TV/DVD BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors:
(CP301, CP302, CP401 and CP403).
3. Remove the TV/DVD Block in the direction of arrow.



1-4: POWER PCB (Refer to Fig. 1-4)

1. Remove the screw ①.
2. Remove the Main PCB Holder.
3. Remove the 2 screws ②.
4. Disconnect the following connectors:
(CP3802 and CP3803).
5. Remove the Power PCB in the direction of arrow.



DISASSEMBLY INSTRUCTIONS

1-5: FRONT TRAY PLATE/TOP SHIELD (Refer to Fig. 1-5)

1. Unlock the 2 supports ①.
2. Remove the Front Tray Plate in the direction of arrow (A).
3. Remove the 12 screws ②.
4. Remove the Top Shield in the direction of arrow (B).

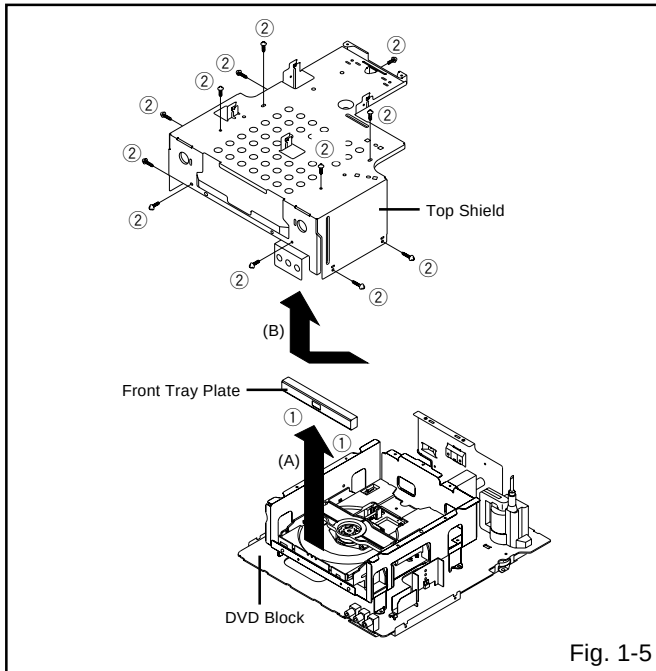


Fig. 1-5

1-6: DVD PCB/DVD DECK (Refer to Fig. 1-6)

1. Make the short circuit on the position as shown Fig. 1-6 using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors: (CP8001 and CP8002).
3. Remove the 4 screws ①.
4. Remove the Angle Deck in the direction of arrow (A).
5. Disconnect the following connectors: (CP2001, CP2301 and CP2302).
6. Remove the 4 screws ②.
7. Remove the DVD Deck in the direction of arrow (B).
8. Remove the 4 screws ③.
9. Remove the DVD PCB in the direction of arrow (C).

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

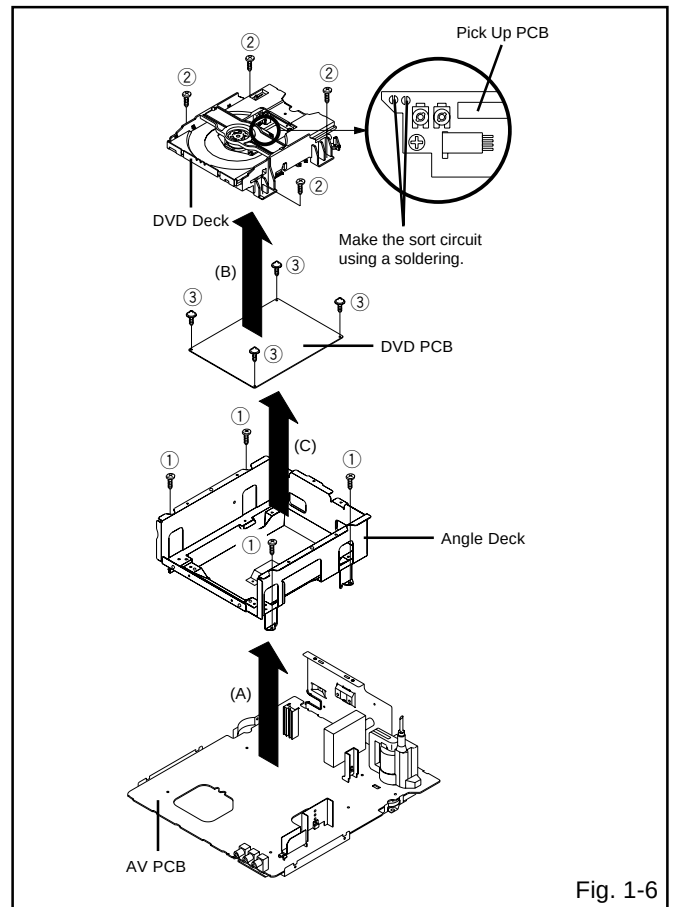


Fig. 1-6

1-7: AV PCB (Refer to Fig. 1-7)

1. Remove the screw ①.
2. Remove the screw ①.
3. Remove the AV Jack Shield.
4. Remove the AV PCB in the direction of arrow.

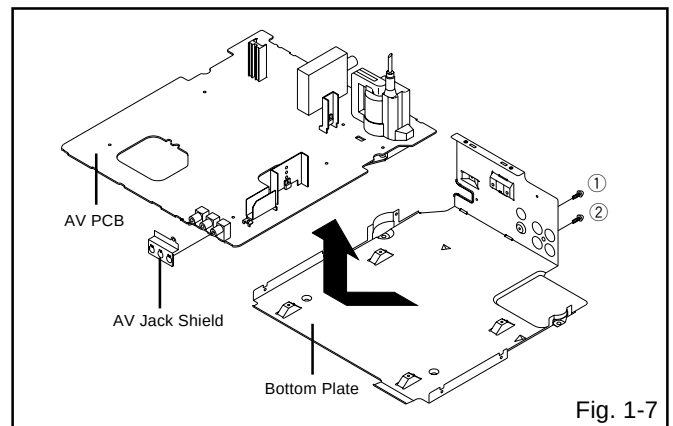


Fig. 1-7

DISASSEMBLY INSTRUCTIONS

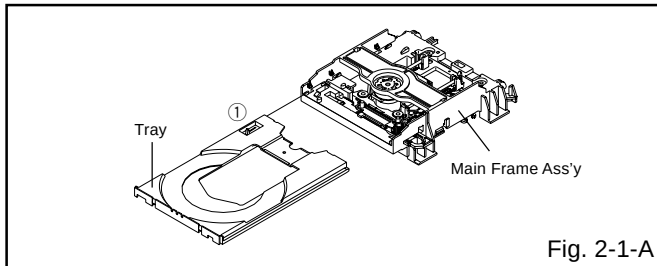
2. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

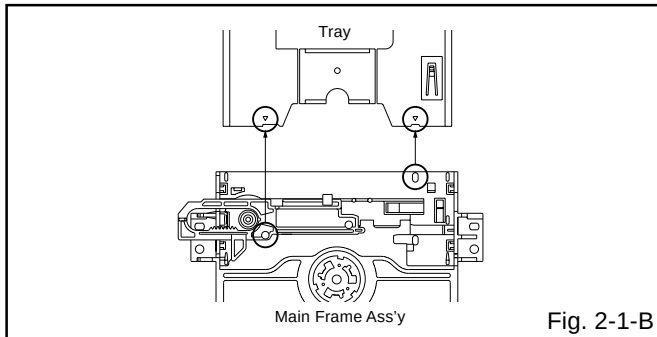
2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. (Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)
2. Unlock the support ① and remove the Tray.



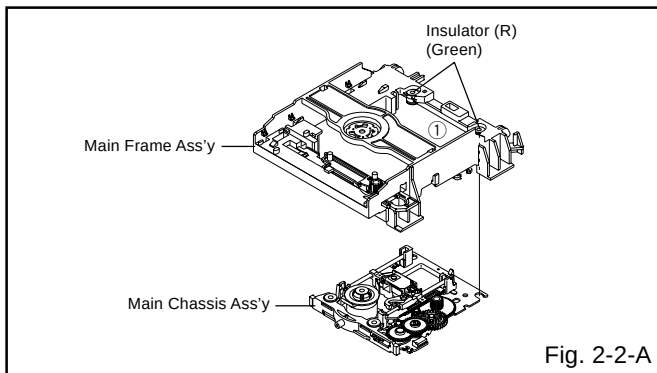
NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.



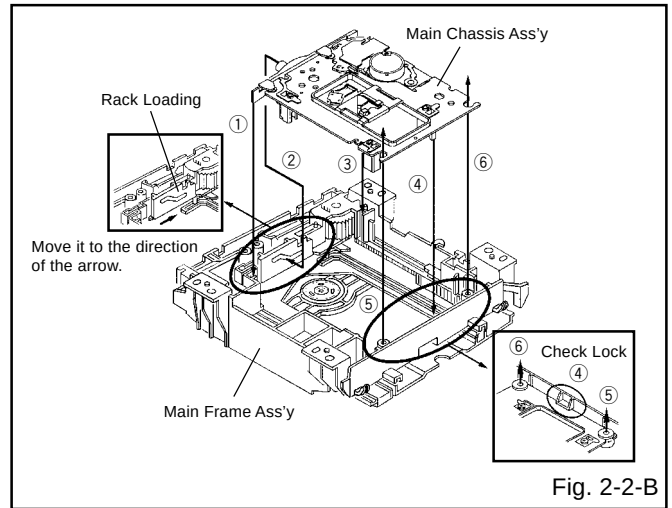
2-2: MAIN CHASSIS ASS'Y (Refer to Fig. 2-2-A)

1. Remove the Main Chassis Ass'y from the Insulator (R).
2. Unlock the support ①.
3. Remove the Main Chassis Ass'y.



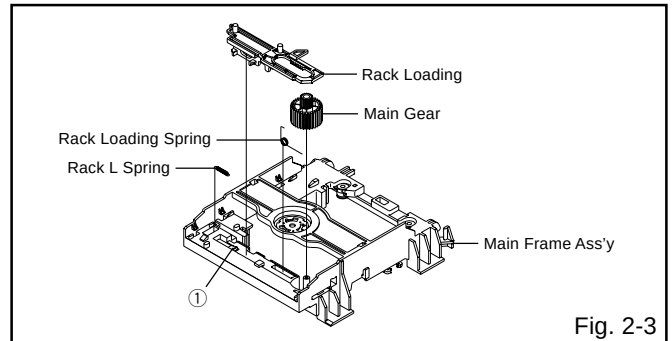
NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (6) in order. (Refer to Fig. 2-2-B)



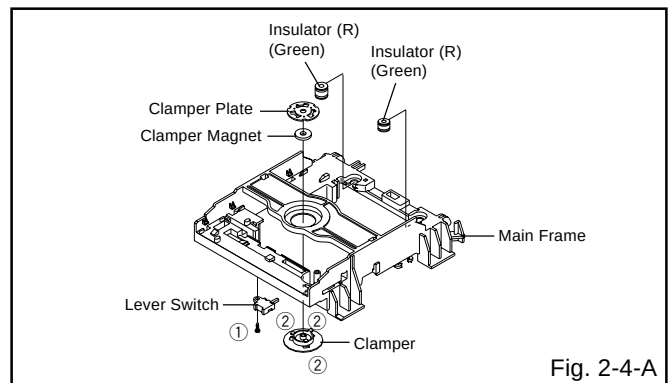
2-3: RACK LOADING/MAIN GEAR/ RACK LOADING SPRING/ RACK L SPRING (Refer to Fig. 2-3)

1. Remove the Rack L Spring.
2. Press down the catcher ① and slide the Rack Loading.
3. Remove the Rack Loading, Rack Loading Spring and Main Gear.



2-4: CLAMPER ASS'Y/INSULATOR(R)/LEVER SWITCH (Refer to Fig. 2-4-A)

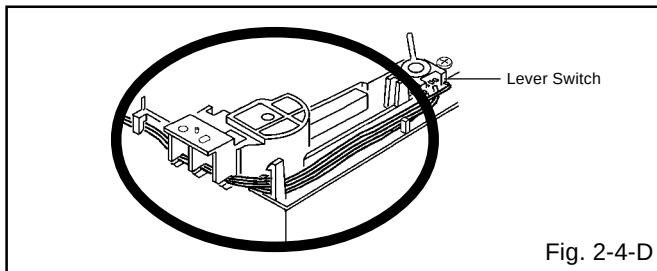
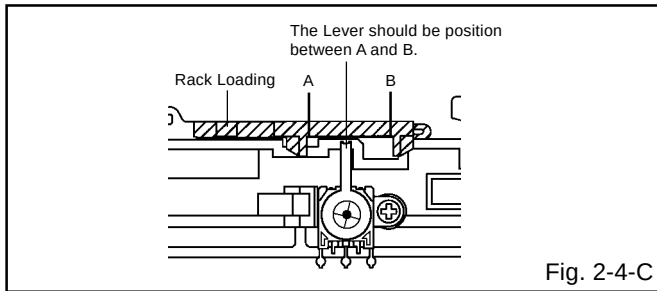
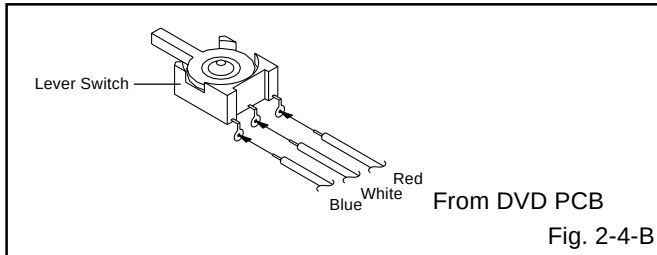
1. Remove the screw ①.
2. Remove the Lever Switch.
3. Remove the 2 Insulator (R).
4. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ②.
5. Remove the Clamper Plate, Clamper Magnet and Clamper.



DISASSEMBLY INSTRUCTIONS

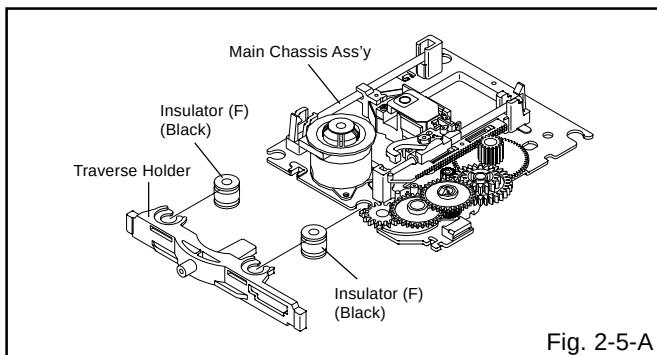
NOTE

1. When installing the Clamper Magnet, install it with the green face up.
2. When installing the wire of the Lever Switch, install it correctly as Fig. 2-4-B.
3. When installing the Lever Switch, install it correctly as Fig. 2-4-C.
4. In case of the Lever Switch installation, hook the wire on the Main Frame as shown Fig. 2-4-D.



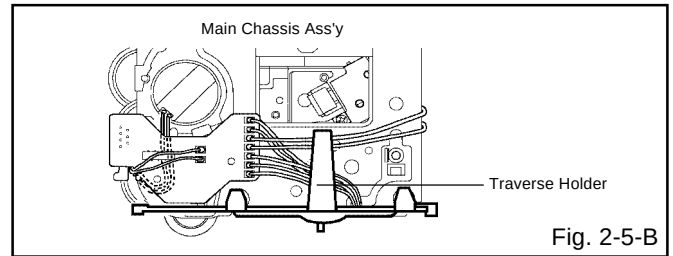
2-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 2-5-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).



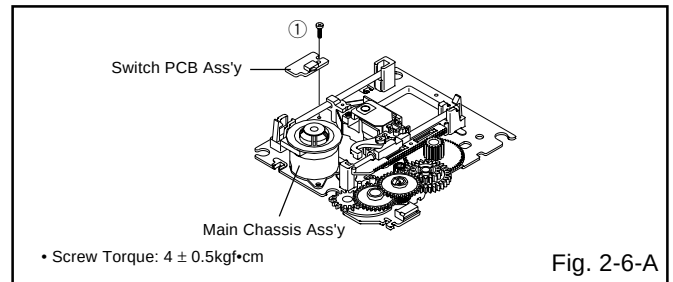
NOTE

1. After the installing of the Traverse Holder, check if the wire is like Fig. 2-5-B.



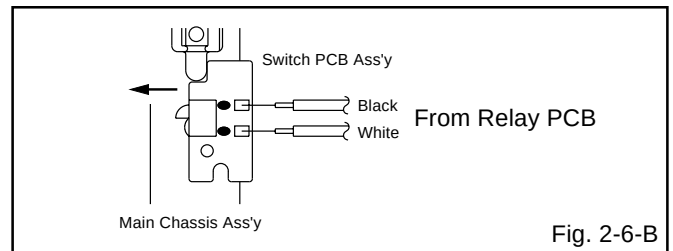
2-6: SWITCH PCB ASS'Y (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Switch PCB Ass'y.



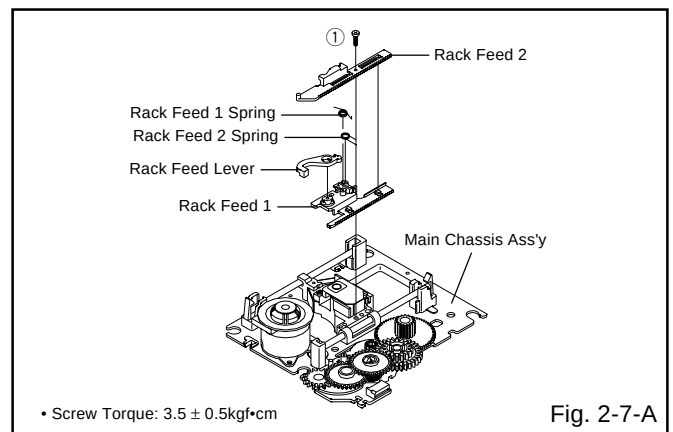
NOTE

1. When installing the wire of the Switch PCB, install it correctly as Fig. 2-6-B.
2. When installing the wire of the Switch PCB, while pressing it in the direction of the arrow as shown Fig. 2-6-B, then instal it.



2-7: RACK FEED ASS'Y (Refer to Fig. 2-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed 1/2 Spring, Rack Feed 1/2 and Rack Feed Lever.



DISASSEMBLY INSTRUCTIONS

NOTE

1. After the assembly of the Rack Feed, check if the Rack Feed 1/2 is moving smoothly. (Refer to Fig. 2-7-B)
2. In case of the Rack Feed Ass'y installation, install correctly as Fig. 2-7-C.

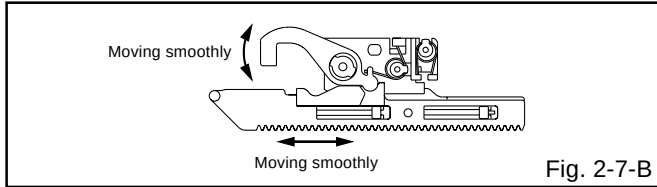


Fig. 2-7-B

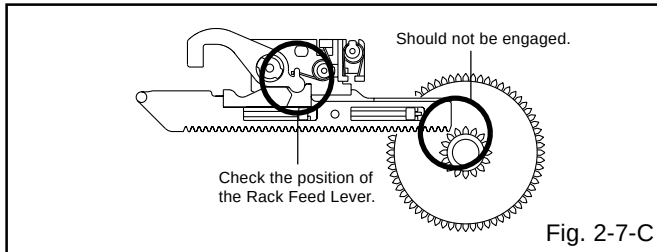


Fig. 2-7-C

2-8: RELAY PCB ASS'Y (Refer to Fig. 2-8-A)

1. Remove the screw ①.
2. Remove the Relay PCB Ass'y.

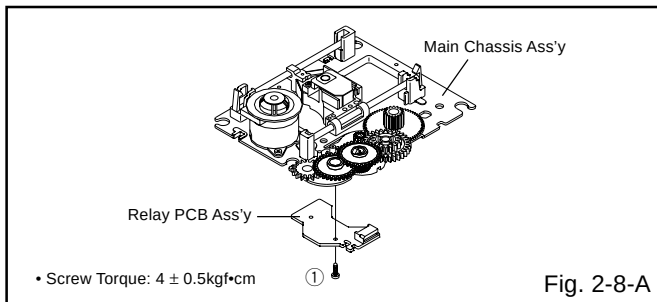


Fig. 2-8-A

NOTE

1. When installing the wire of the Relay PCB, install it correctly as Fig. 2-8-B.

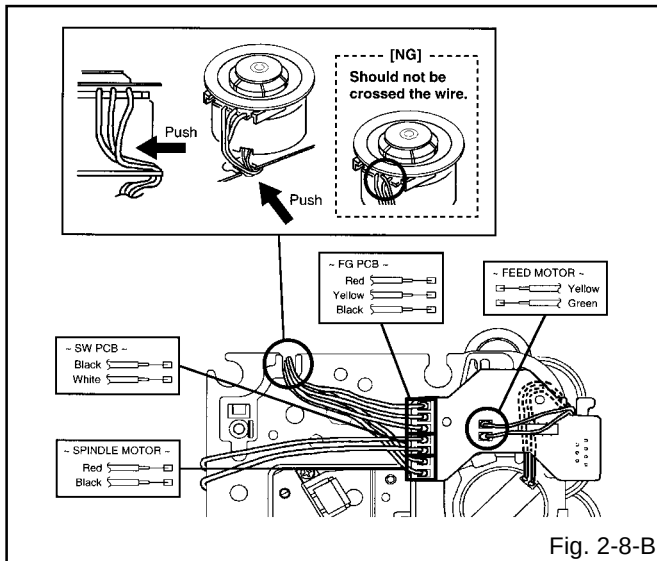


Fig. 2-8-B

2-9: GEAR (Refer to Fig. 2-9-A)

1. Unlock the support ①.
2. Remove the Middle Gear 1/2/3, Idler Gear and Feed Gear.

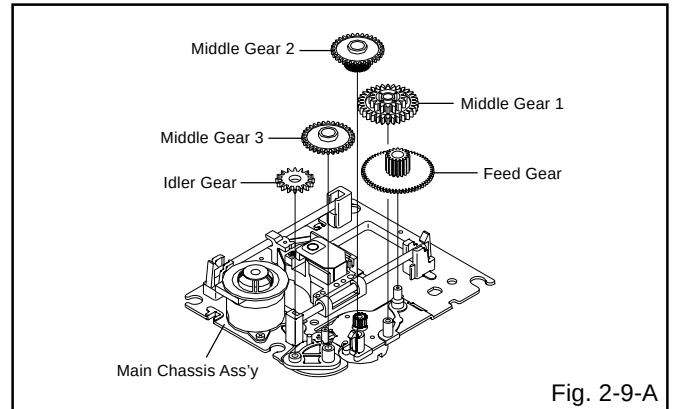


Fig. 2-9-A

NOTE

1. In case of the Idler Gear installation, install correctly as Fig. 2-9-B.
2. When installing the Middle Gear 2, check if the Middle Gear 2 is locked correctly as Fig. 2-9-C.

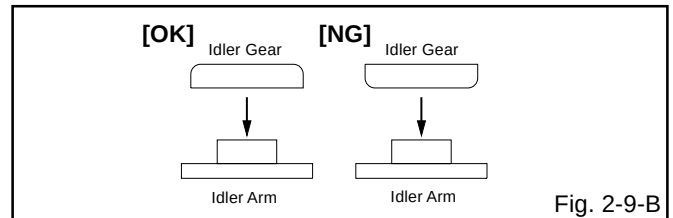


Fig. 2-9-B

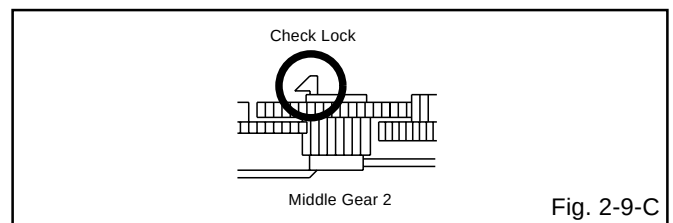


Fig. 2-9-C

2-10: IDLER ARM (Refer to Fig. 2-10-A)

1. Remove the Idler Arm Spring.
2. Remove the Chassis Spring.
3. Remove the Idler Arm.

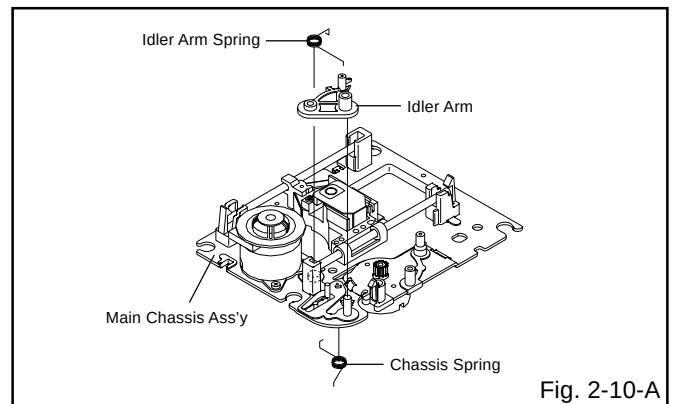
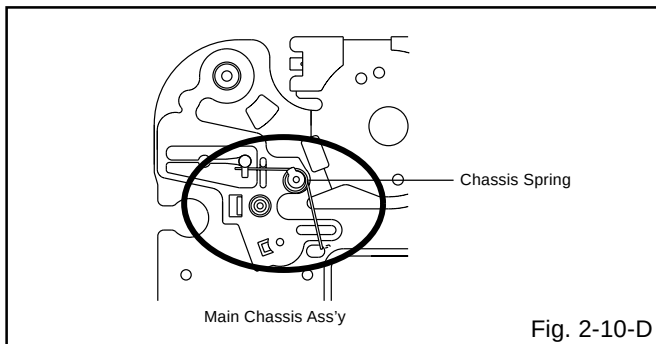
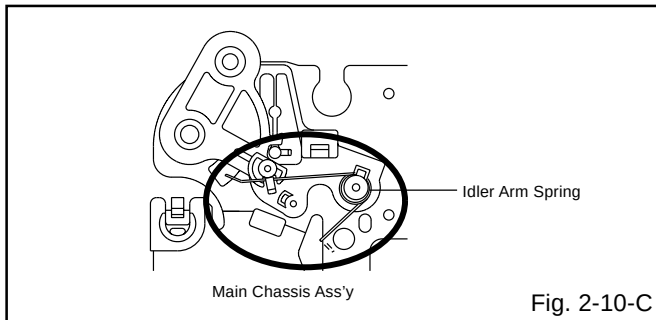
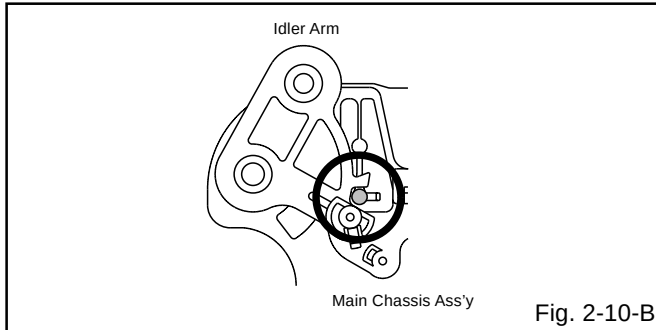


Fig. 2-10-A

DISASSEMBLY INSTRUCTIONS

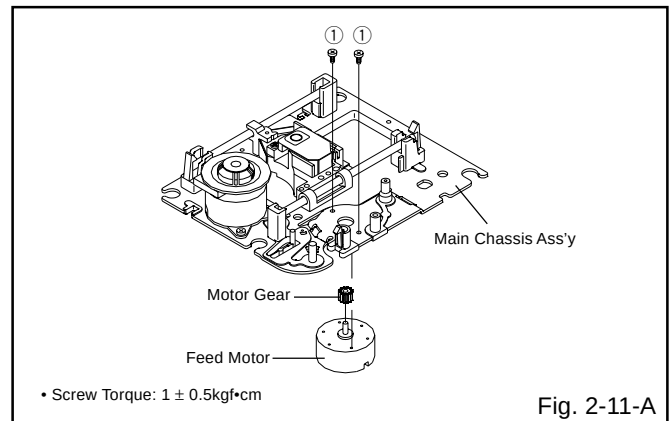
NOTE

1. In case of the Idler Arm installation, install as the circled section of Fig. 2-10-B.
2. In case of the Idler Arm Spring installation, install as the circled section of Fig. 2-10-C.
3. In case of the Chassis Spring installation, install as the circled section of Fig. 2-10-D.



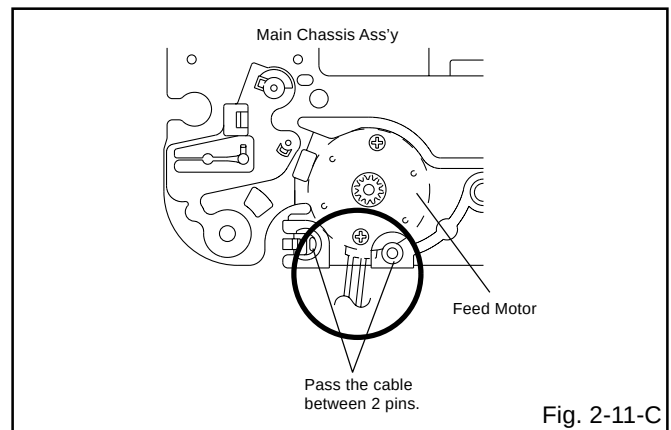
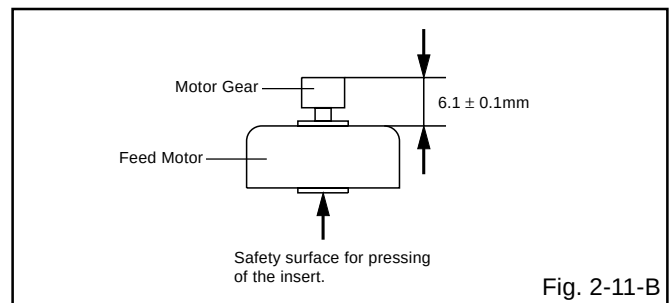
2-11: FEED MOTOR (Refer to Fig. 2-11-A)

1. Remove the 2 screws ①.
2. Remove the Feed Motor.
3. Remove the Motor Gear.



NOTE

1. In case of the Motor Gear installation, check if the value of the Fig. 2-11-B is correct.
2. When installing the Feed Motor, check if the cable is positioned as Fig. 2-11-C.



DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

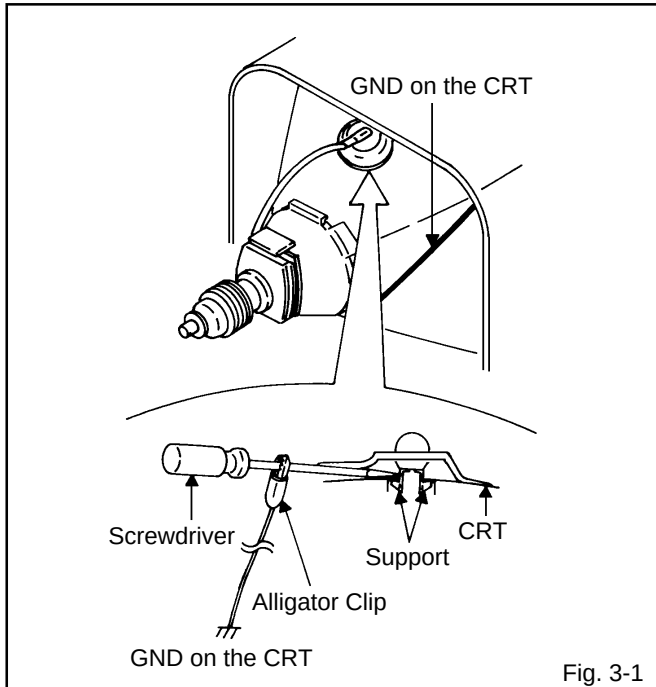
- * After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- * Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

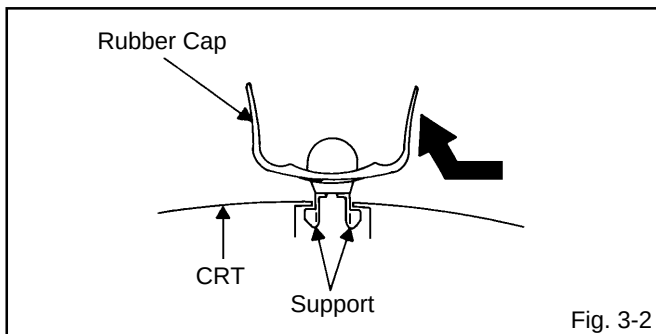
1. Follow the steps as follows to discharge the Anode Cap.
(Refer to Fig. 3-1.)

Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.

A cracking noise will be heard as the voltage is discharged.



2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support.
(Refer to Fig. 3-2.)



3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

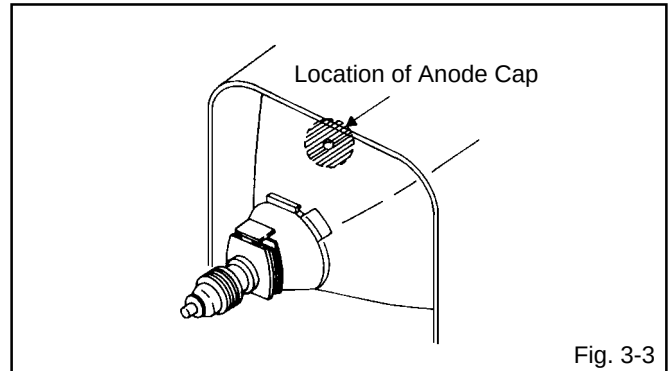
Take care not to damage the Rubber Cap.

INSTALLATION

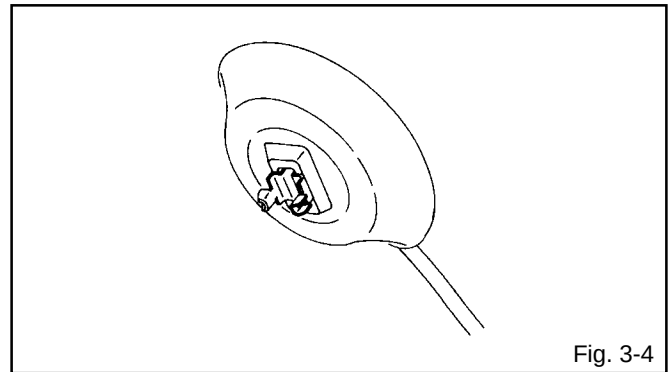
1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

NOTE

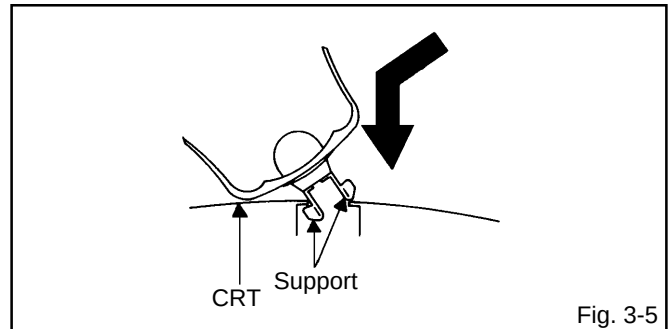
Confirm that there is no dirt, dust, etc. at the spot where the cap was located.



2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**



4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5**.



5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

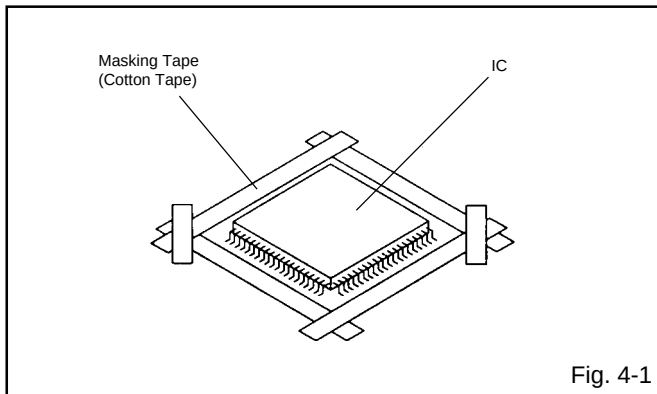
4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 4-1.)

NOTE

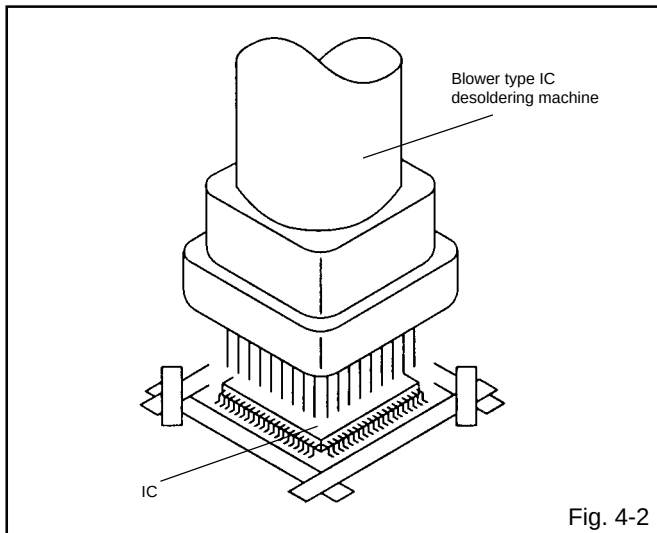
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 4-2.)

NOTE

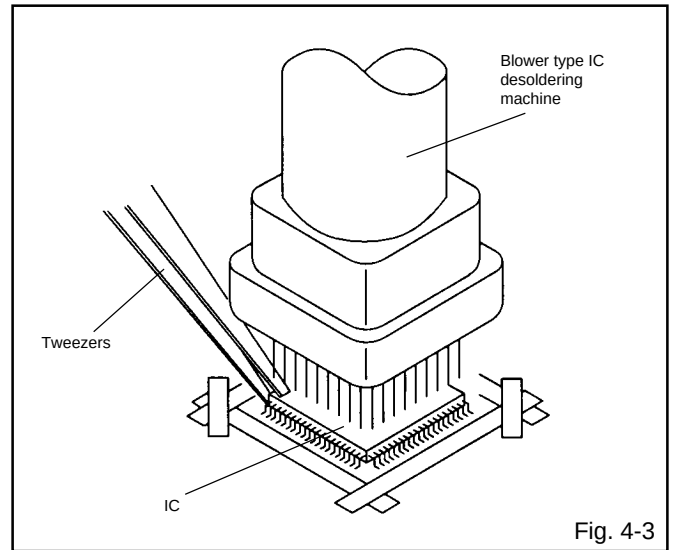
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 4-3.)

NOTE

Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

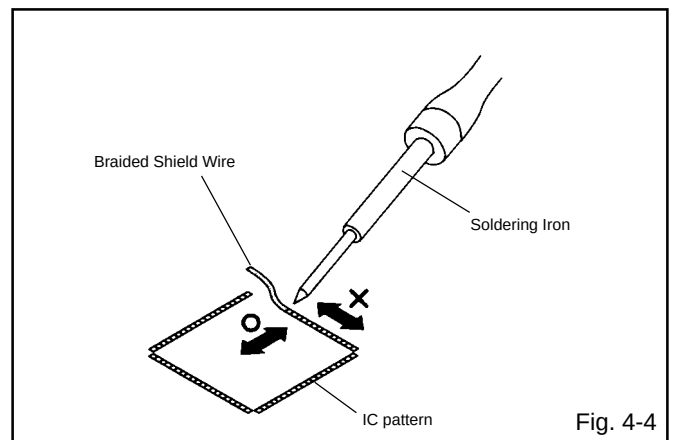


4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 4-4.)

NOTE

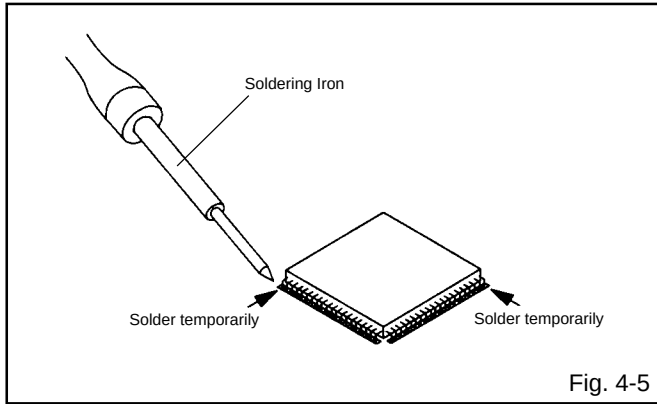
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



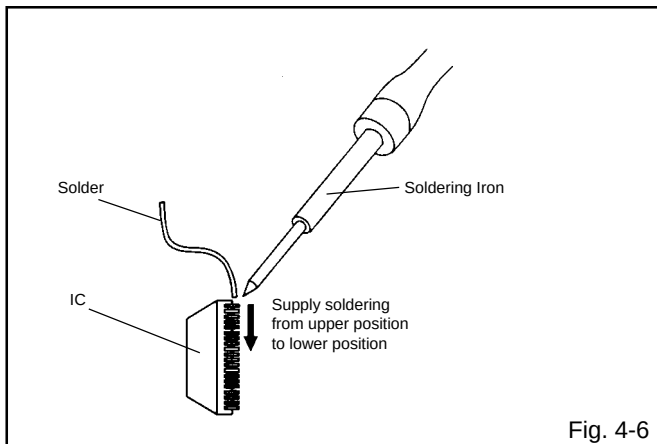
DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. (Refer to Fig. 4-5.)



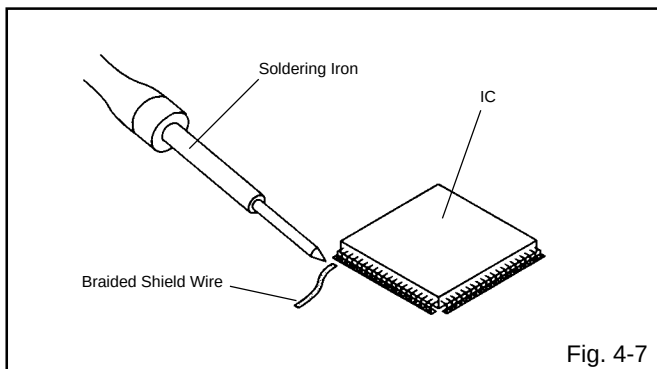
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 4-6.)



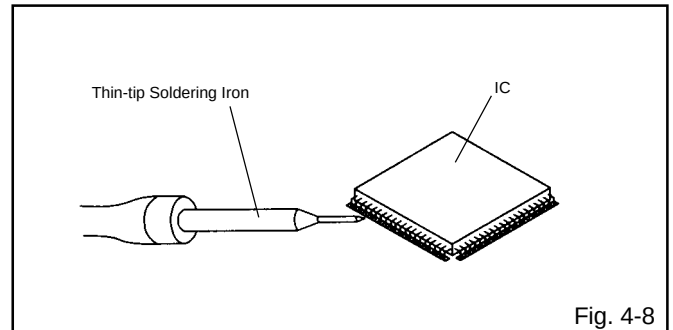
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 4-7.)

NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. (Refer to Fig. 4-8.)



5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass. Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a standard time (second).

Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	0	1	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work at the DVD stop mode.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF HOURS USED). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	8	1	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL - RATING LEVEL". NOTE: The function will only work without the setting of DVD disc at DVD mode.
STOP	9	3	Tray cannot be opened. Refer to the "TRAY LOCK". NOTE: No indications on the screen when the Tray Lock is setting.

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.

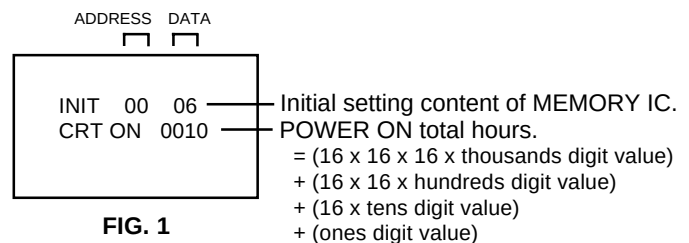


FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: No need setting for after INI 1F due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	06	00	44	40	D0	45	30	25	05	55	01	00	49	50	0F	47
10	30	60	70	05	05	88	03	60	00	78	56	FF	05	FF	FF	FF

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.

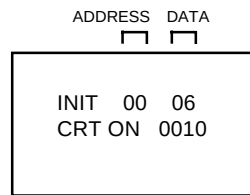


FIG. 1

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
 4. Press ENTER to select DATA. When DATA is selected, it will "blink".
 5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
 6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
 7. Repeat steps 3 to 6 until all data has been checked.
 8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.
After the data input, set to the initializing of shipping.
 9. Turn POWER on.
 10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 1 second.
 11. After the finishing of the initializing of shipping, the unit will turn off automatically.
- The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. AC Voltmeter
4. Pattern Generator
5. Multi-Sound Signal Generator

On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the Channel button (9) on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in Fig. 1-1.

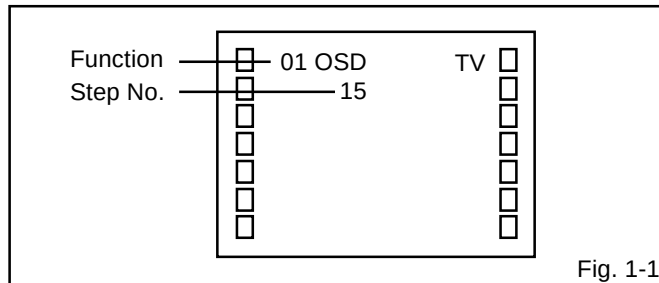


Fig. 1-1

3. Use the Channel UP/DOWN button or Channel button (1-0) on the remote control to select the options shown in Fig. 1-2.
4. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
01	OSD H	36	COL. AV(CENT.)
02	OSD CONTRAST	37	COL. AV(MAX)
03	CUT OFF	38	COL. AV(MIN)
04	H POSITION	39	TINT AV
05	H BLK L	40	SHARPNESS AV
06	H BLK R	41	SUB BIAS
07	V SIZE	42	BRI. DVD(CENT.)
08	V POSITION	43	BRI. DVD(MAX)
09	V LINEARITY	44	BRI. DVD(MIN)
10	V S CORRECTION	45	CONT. DVD(CENT.)
11	V COMP	46	CONT. DVD(MAX)
12	R CUT OFF	47	CONT. DVD(MIN)
13	G CUT OFF	48	COL. DVD(CENT.)
14	B CUT OFF	49	COL. DVD(MAX)
15	R DRIVE	50	COL. DVD(MIN)
16	G DRIVE	51	TINT DVD
17	B DRIVE	52	SHARPNESS DVD
18	BRIGHTNESS(CENT.)	53	SUB BIAS
19	BRIGHTNESS(MAX)	54	BRI. GAME(CENT.)
20	BRIGHTNESS(MIN)	55	BRI. GAME(MAX)
21	CONTRAST(CENT.)	56	BRI. GAME(MIN)
22	CONTRAST(MAX)	57	CONT. GAME(CENT.)
23	CONTRAST(MIN)	58	CONT. GAME(MAX)
24	COLOR(CENT.)	59	CONT. GAME(MIN)
25	COLOR(MAX)	60	SUB BIAS
26	COLOR(MIN)	61	TUNING V MUTE
27	TINT	62	POWER ON V MUTE
28	SHARPNESS	63	INPUT LEVEL
29	SUB BIAS	64	SEPARATION L
30	BRI. AV(CENT.)	65	SEPARATION H
31	BRI. AV(MAX)	66	TEST PWM
32	BRI. AV(MIN)	67	X-RAY TEST
33	CONT. AV(CENT.)	68	H STOP
34	CONT. AV(MAX)	69	H FREQ
35	CONT. AV(MIN)		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Input DC12V to DC Jack and turn the Power ON.
2. Connect the digital voltmeter to the **TP3801**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR3801** until the digital voltmeter is $101 \pm 0.5V$.
5. Input AC120V to AC cord, and then remove the DC Jack cord.
6. Adjust the **VR3802** until the digital voltmeter is $102 \pm 0.5V$.

2-2: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-3: CUT OFF

1. Adjust the unit to the following settings.
R DRIVE=3F, G DRIVE=05, B DRIVE=3F, R CUT OFF=7F, G CUT OFF=7F, B CUT OFF=7F
2. Place the set with Aging Test for more than 15 minutes.
3. Set condition is AV MODE without signal.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of Fig. 1-1 and press the channel button (03) on the remote control to select "CUT OFF".
6. Adjust the **Screen Volume** until a dim raster is obtained.

ELECTRICAL ADJUSTMENTS

2-4: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "G DRV".
5. Press the CH. UP/DOWN button on the remote control to select the "R CUT", "G CUT", "B CUT", "R DRV" or "B DRV".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUT, G CUT, B CUT, R DRV, and B DRV at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(04)** on the remote control to select "HPOSI".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-6: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "VPOSI".
4. Check if the step No. V POSI is "02".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

2-7: VERTICAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "VSIZE".
4. Press the VOL. UP/DOWN button on the remote control until the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
5. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-7.
After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "VLIN".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-9: SEPARATION

Please do the method (1) or method (2) adjustment.

Method (1)

1. Set the multi-sound signal generator for each different L-ch and R-ch frequency (Ex. L-ch=2KHz, R-ch=400Hz) and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack**.
3. Press the AUDIO button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "SEPAL".
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.

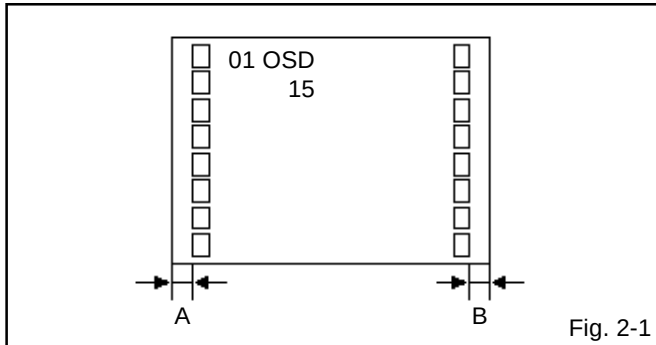
Method (2)

1. Set the multi-sound signal generator L-ch=1KHz, R-ch=Non input and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack (R-ch)**.
3. Press the AUDIO button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "SEPAL".
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the R-ch output becomes minimum.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the VOL. UP/DOWN button on the remote control to adjust it until the R-ch output becomes minimum.
8. Set the multi-sound signal generator L-ch=Non input, R-ch=1KHz and receive the RF signal.
9. Connect the oscilloscope to the **Audio Out Jack (L-ch)**. Then perform the above adjustments 3~7.

ELECTRICAL ADJUSTMENTS

2-10: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1**.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum.
(Refer to Fig. 2-1)



2-11: LEVEL

1. Receive the VHF HIGH (70dB).
2. Connect the AC voltmeter to **pin 6 of CP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(63)** on the remote control to select "LVL".
4. Press the VOL. UP/DOWN button on the remote control until the AC voltmeter is $80 \pm 2\text{mV}$.

2-12: BRIGHT CENTER

1. Receive the monoscope pattern. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(18)** on the remote control to select "BRTC".
4. Press the VOL. UP/DOWN button on the remote control until the white 15% is starting to be visible
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the INPUT SELECT button on the remote control to set to the AV mode.
7. Using the remote control, set the brightness and contrast to normal position.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(30)** on the remote control to select "BRTCA".
9. Press the VOL. UP/DOWN button on the remote control until the white 15% is starting to be visible
10. Press the TV/DVD button on the remote control to set to the DVD mode.
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(42)** on the remote control to select "BRTCD".
12. Press the VOL. UP/DOWN button on the remote control to increase the step numbers by 5 steps to the AV.

2-13: TINT CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP024**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(27)** on the remote control to select "TNTC".
5. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line.
(Refer to Fig. 2-2)
6. Receive the color bar pattern. (Audio Video Input)
7. Press the INPUT SELECT button on the remote control to set to the AV mode.
8. Using the remote control, set the brightness, contrast, color and tint to normal position.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "TNTCA".
10. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line.
(Refer to Fig. 2-2)
11. Press the TV/DVD button on the remote control to set to the DVD mode.
12. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "TNTCD".
13. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.



ELECTRICAL ADJUSTMENTS

2-14: COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP022**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(24)** on the remote control to select "COLC".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to $90 \pm 5\%$ of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode.
9. Using the remote control, set the brightness, contrast, color and tint to normal position.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(36)** on the remote control to select "COLCA".
11. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
12. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to $90 \pm 5\%$ of the white level. **(Refer to Fig. 2-3)**
13. Press the TV/DVD button on the remote control to set to the DVD mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(48)** on the remote control to select "COLCD".
15. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

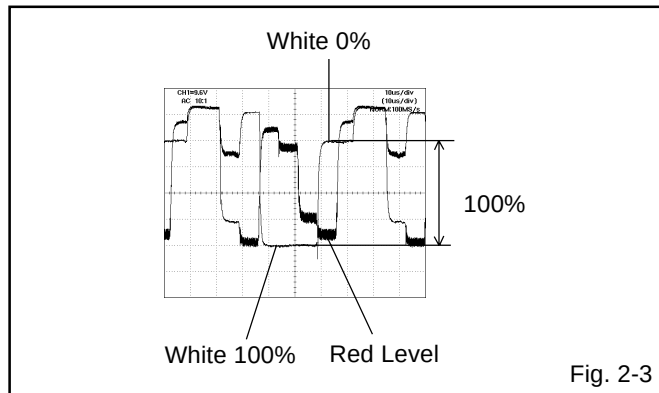


Fig. 2-3

2-15: CONTRAST MAX

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CNTX".
2. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "3A"
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(34)** on the remote control to select "CNTXA".
6. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "3A"
7. Receive a broadcast and check if the picture is normal.
8. Press the TV/DVD button on the remote control to set to the DVD mode.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(46)** on the remote control to select "CNTXD".
10. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

2-16: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	STEP NO.	NO.	FUNCTION	STEP NO.
02	OSD CONTRAST	00	38	COL. AV(MIN)	05
05	H BLK L	00	40	SHARPNESS AV	11
06	H BLK R	00	41	SUB BIAS	00
08	V POSITION	02	43	BRI. DVD(MAX)	50
10	V S CORRECTION	0C	44	BRI. DVD(MIN)	25
11	V COMP	03	45	CONT. DVD(CENT.)	30
16	G DRIVE	05	47	CONT. DVD(MIN)	00
19	BRIGHTNESS(MAX)	50	49	COL. DVD(MAX)	70
20	BRIGHTNESS(MIN)	25	50	COL. DVD(MIN)	05
21	CONTRAST(CENT.)	30	52	SHARPNESS DVD	05
23	CONTRAST(MIN)	00	53	SUB BIAS	00
25	COLOR(MAX)	70	55	BRI. GAME(MAX)	50
26	COLOR(MIN)	05	56	BRI. GAME(MIN)	25
28	SHARPNESS	11	57	CONT. GAME(CENT.)	30
29	SUB BIAS	00	59	CONT. GAME(MIN)	00
31	BRI. AV(MAX)	50	60	SUB BIAS	00
32	BRI. AV(MIN)	25	61	TUNING V MUTE	00
33	CONT. AV(CENT.)	30	62	POWER ON V MUTE	40
35	CONT. AV(MIN)	00	68	H FREQ	3F
37	COL. AV(MAX)	70			

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

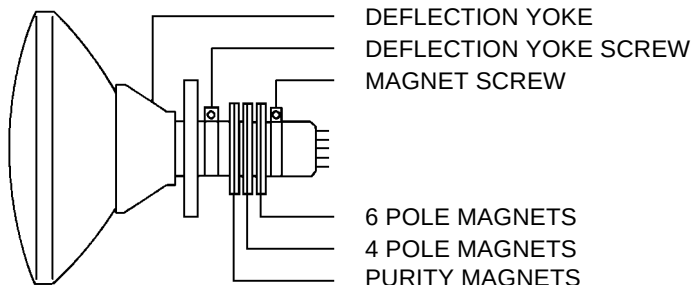


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**

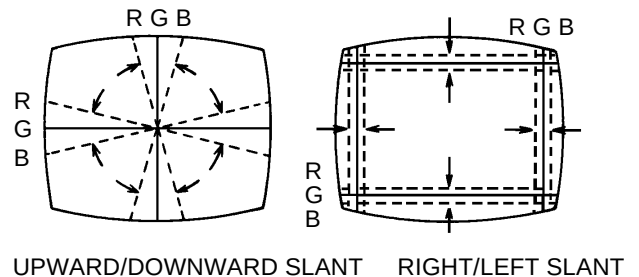


Fig. 3-2-a

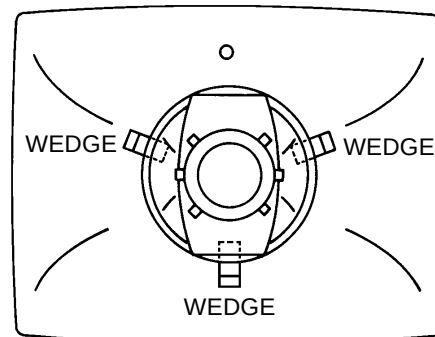
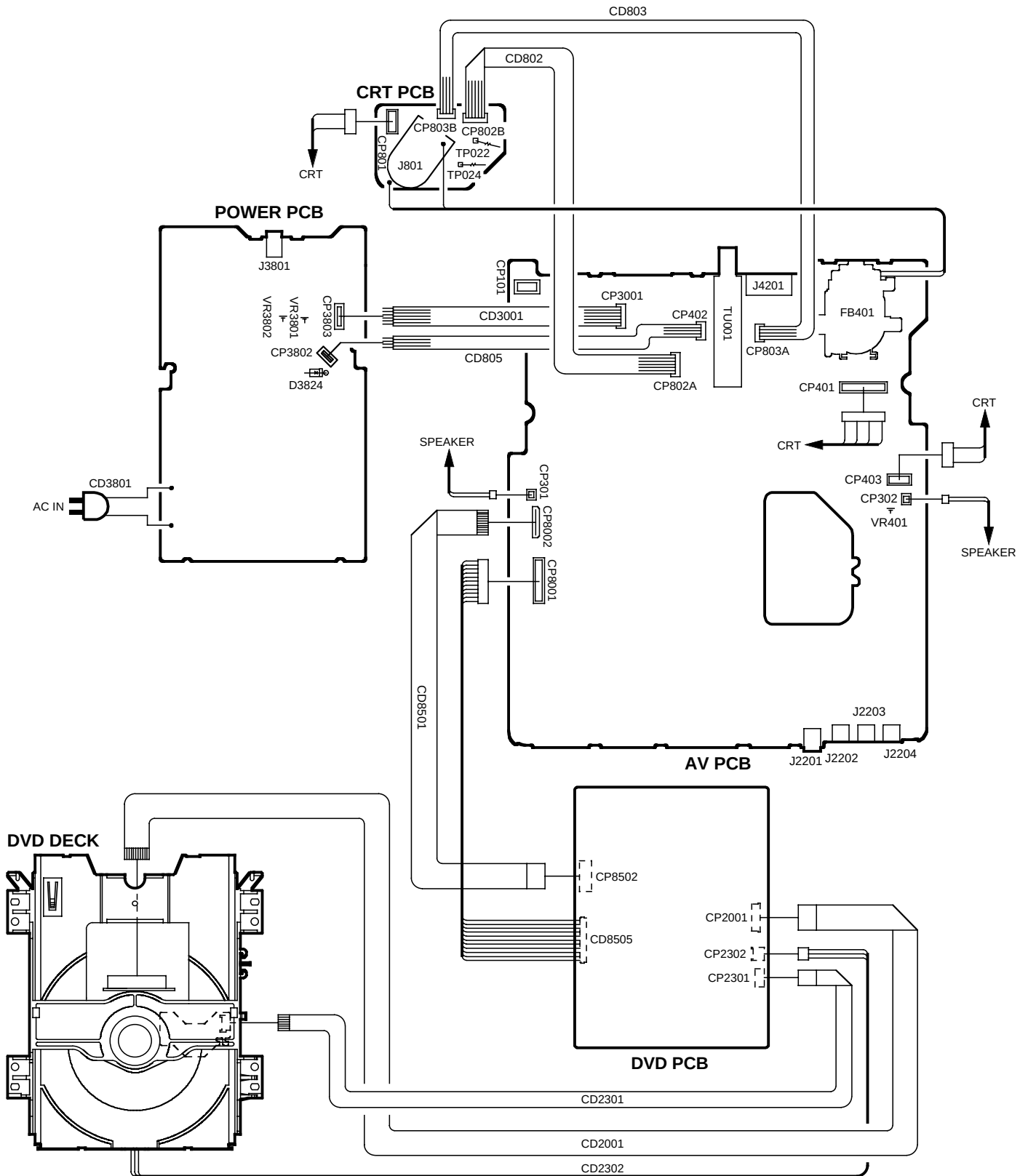


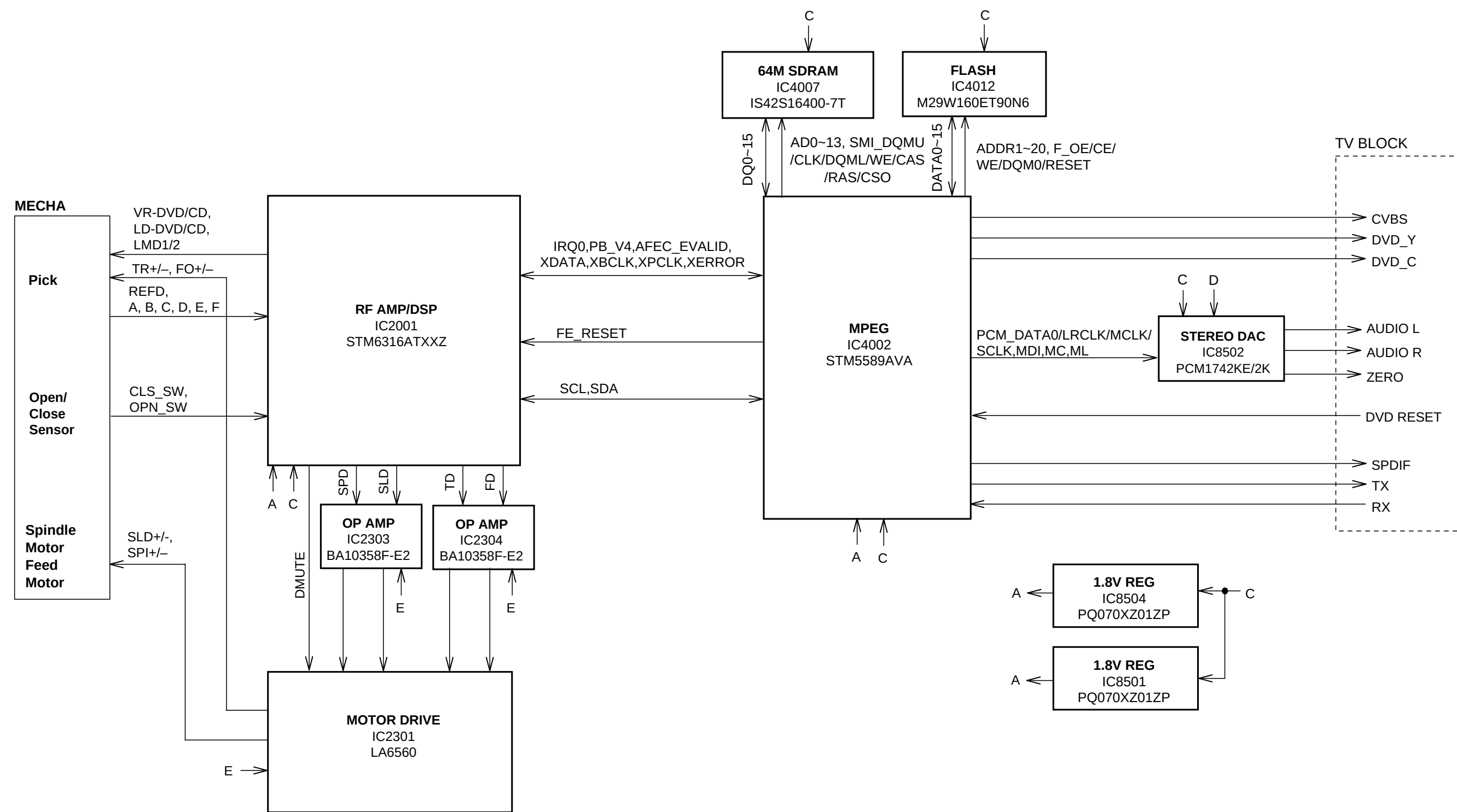
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)

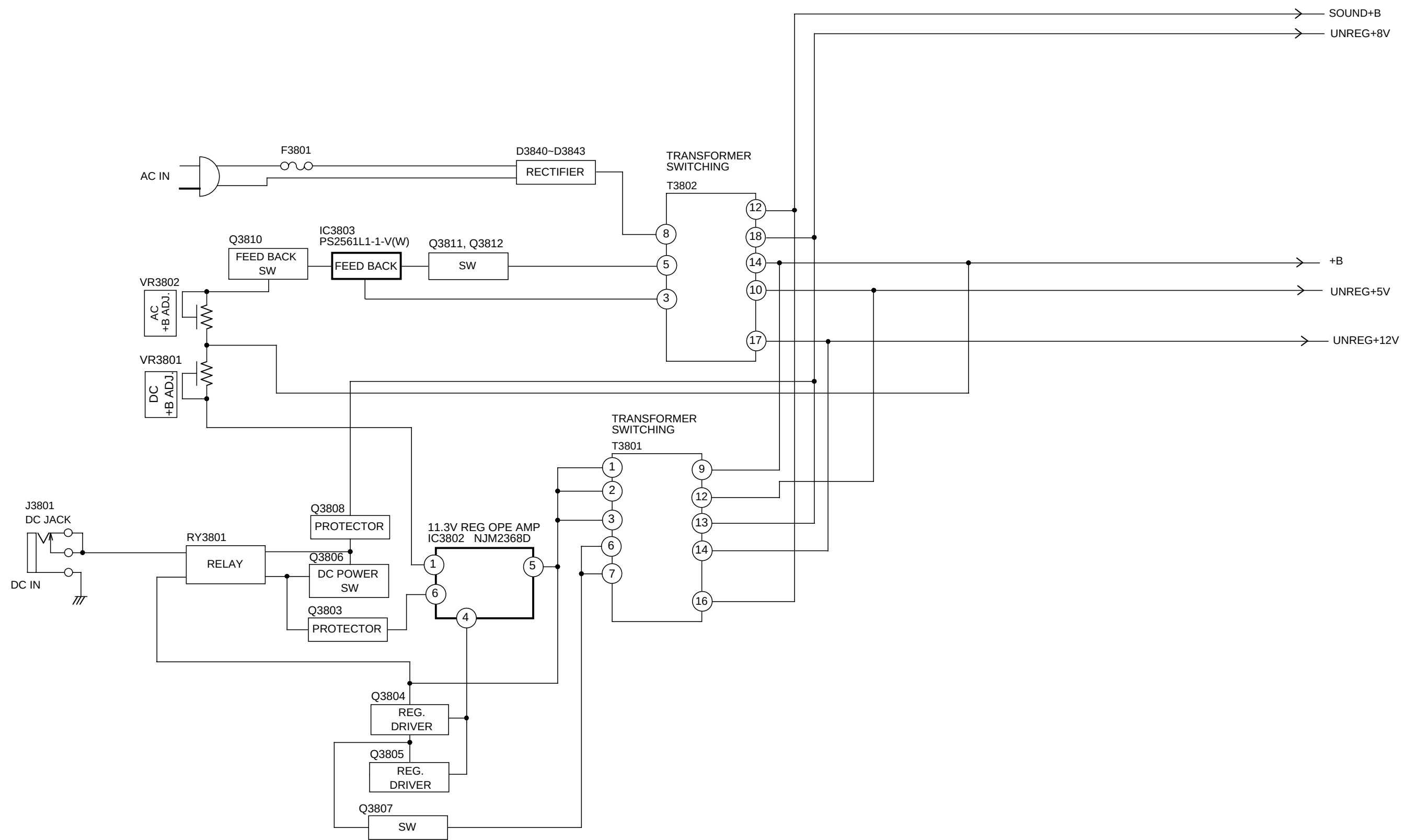


DVD ST SOLUTION BLOCK DIAGRAM



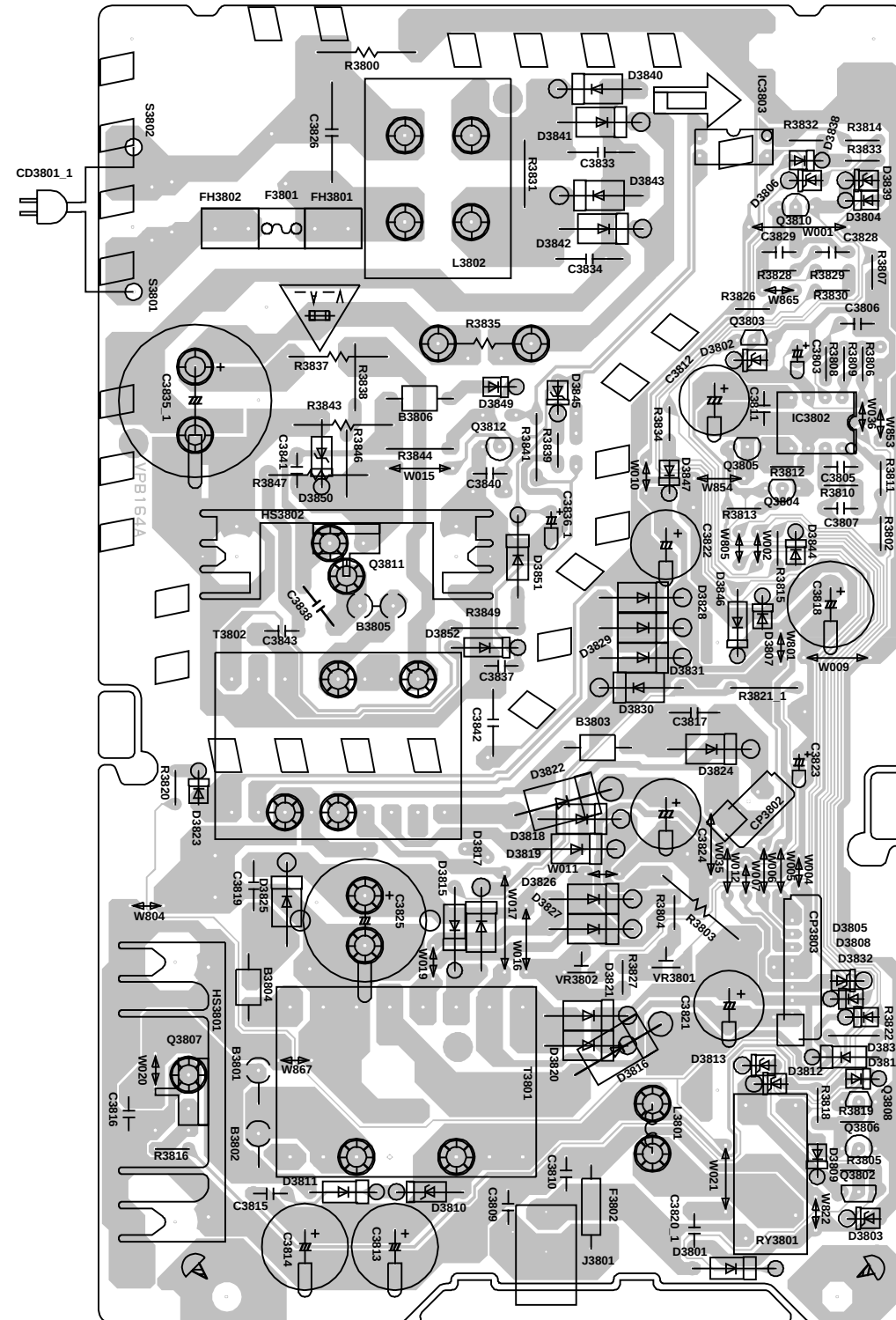
A --- 1.8V
B --- 2.5V
C --- 3.3V
D --- 5V
E --- 9V

POWER BLOCK DIAGRAM

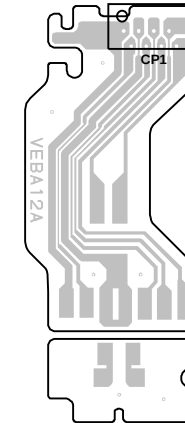


PRINTED CIRCUIT BOARDS

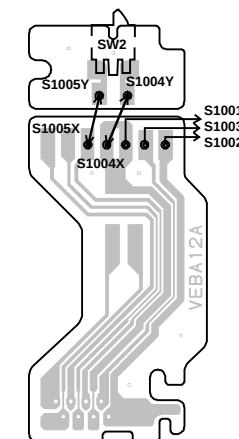
**POWER
SOLDER SIDE**



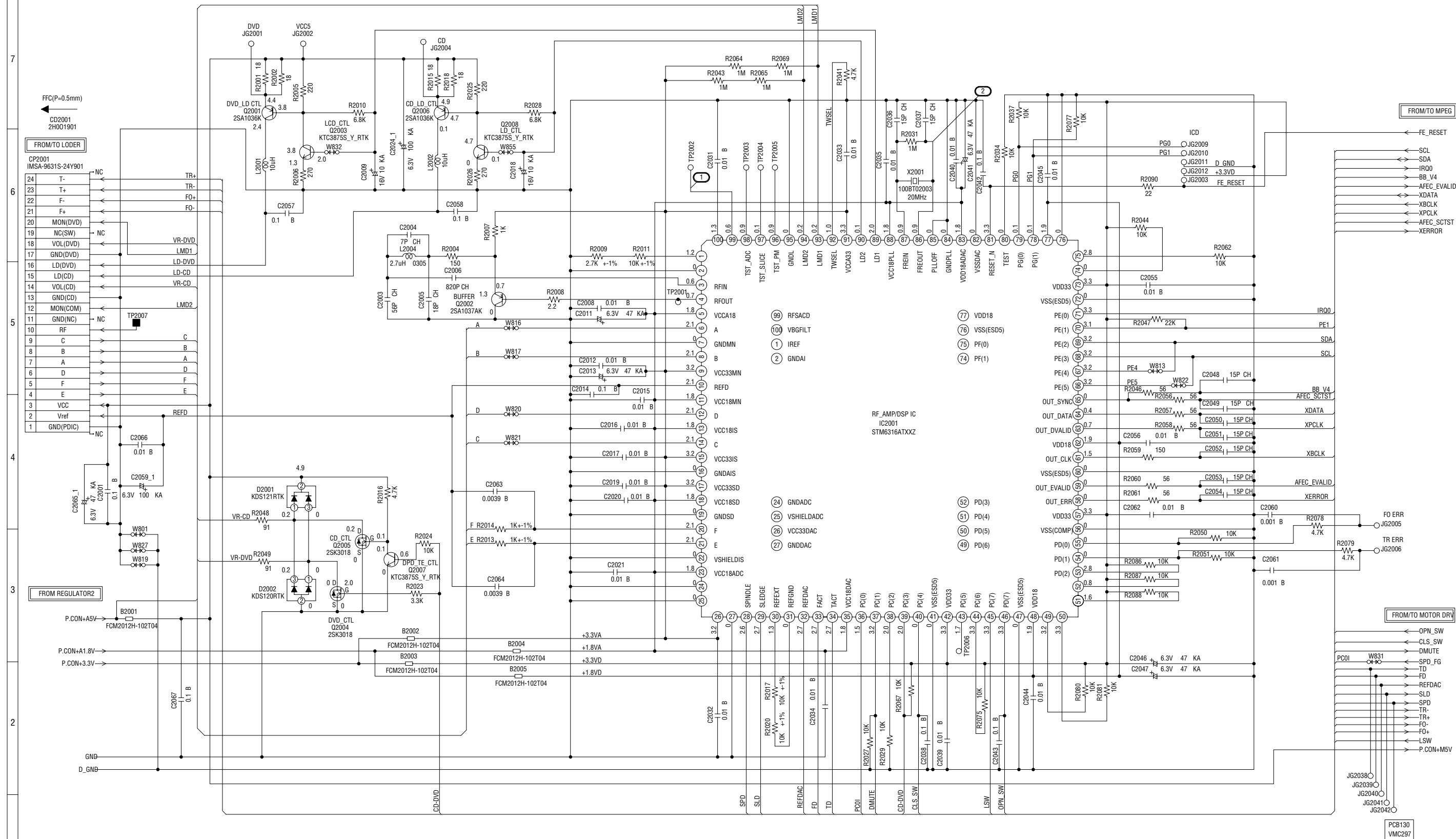
RELAY/SW (INSERTED PARS)
SOLDER SIDE



RELAY/SW (CHIP MOUNTED PARS)
SOLDER SIDE



(DVD PCB)



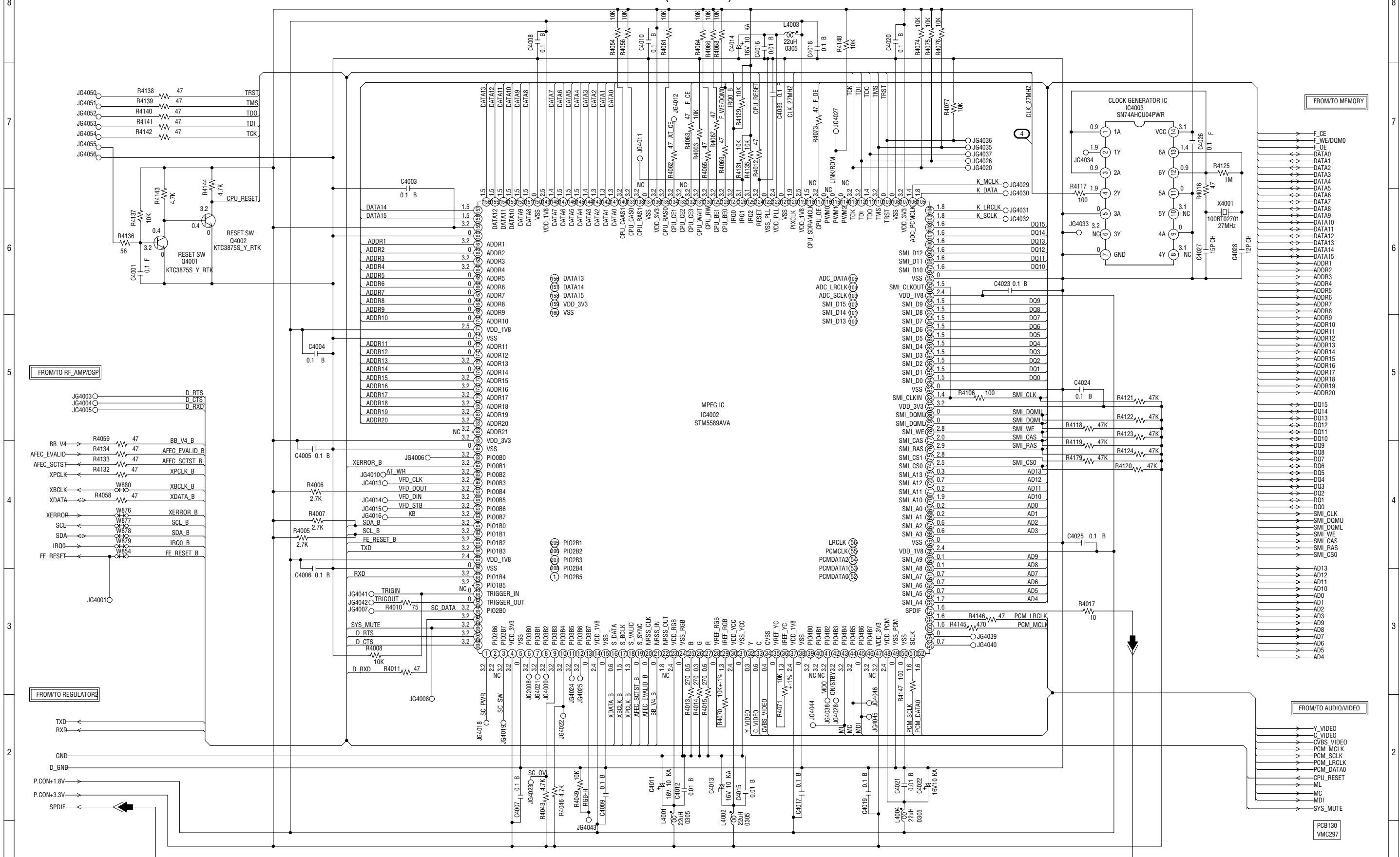
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK

(DVD PCB)



MPEG SCHEMATIC DIAGRAM
(DVD PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

DIGITAL AUDIO SIGNAL (PB)

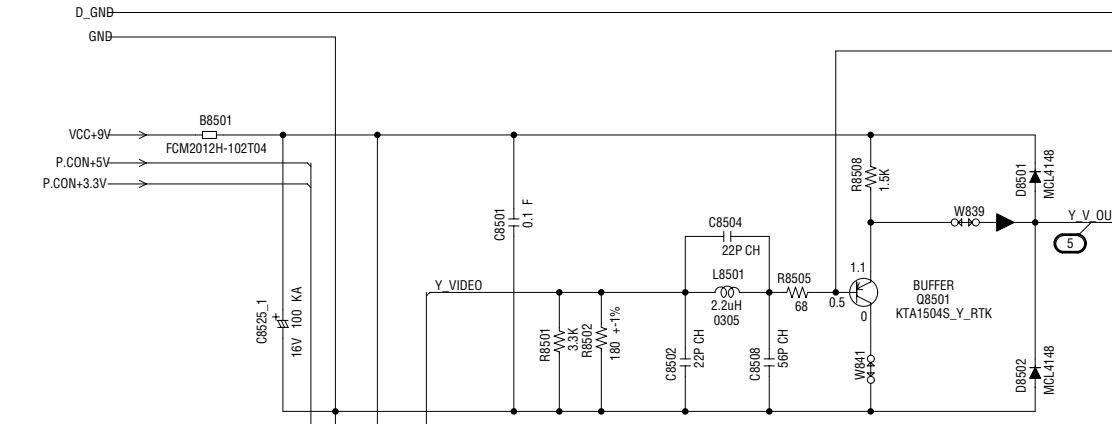
(DVD PCB)



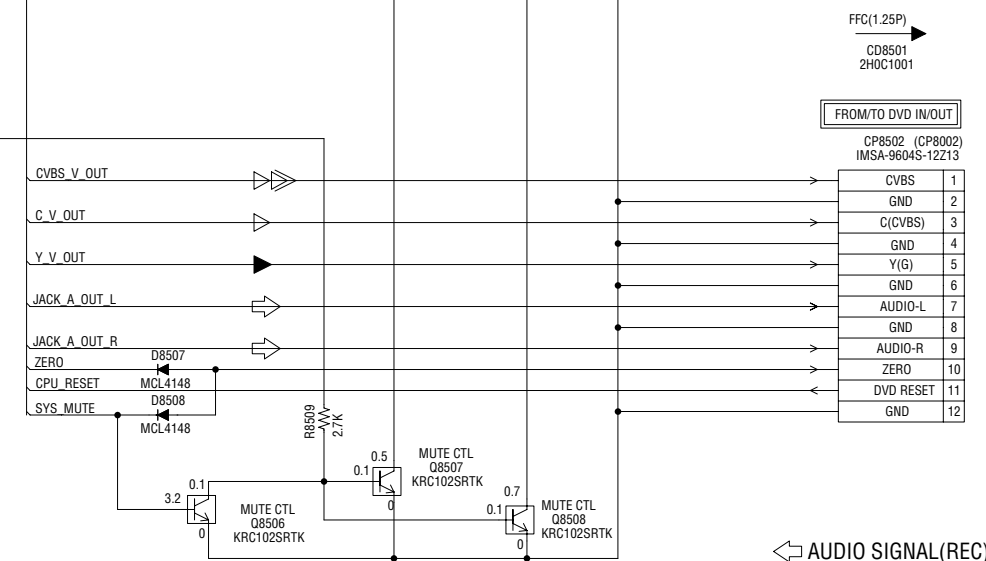
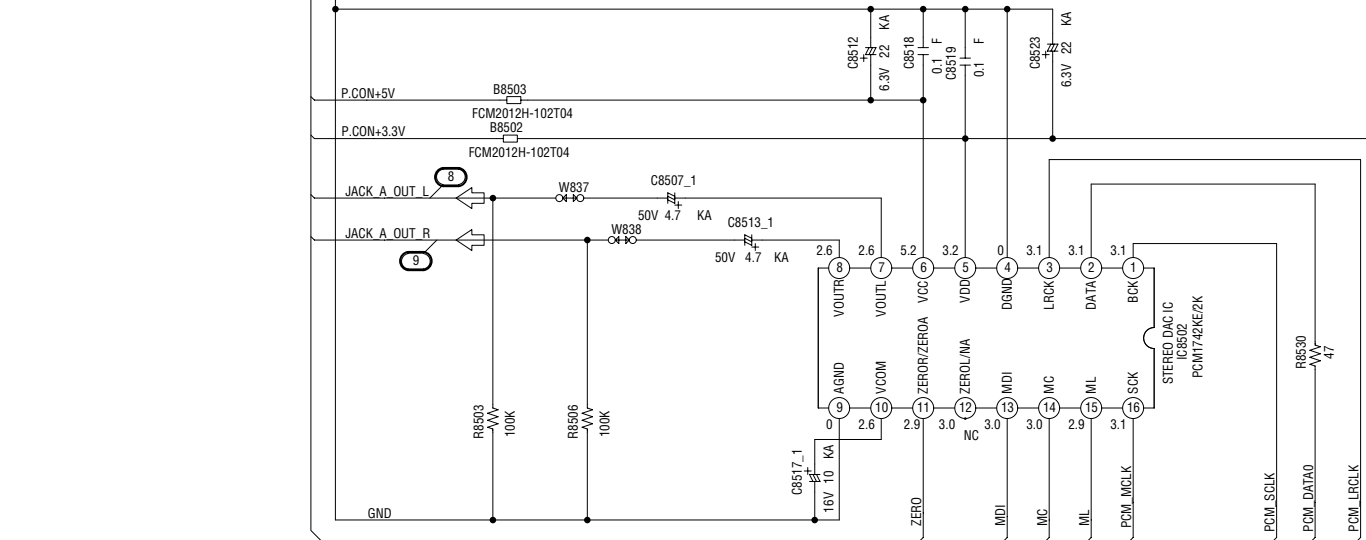
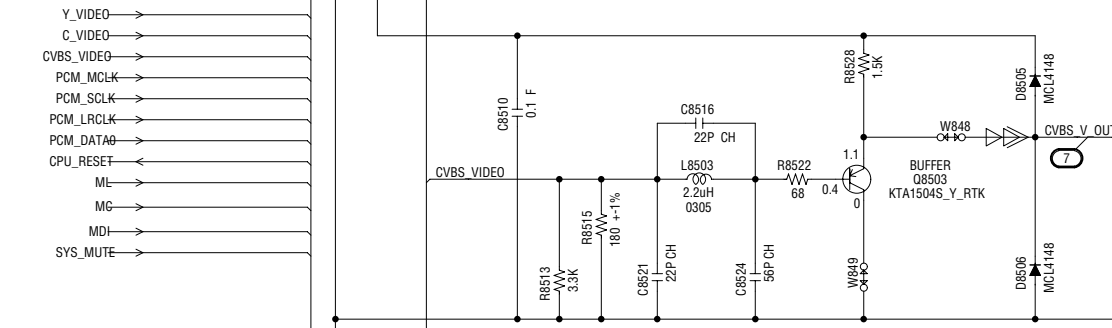
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

AUDIO/VIDEO SCHEMATIC DIAGRAM
(DVD PCB)

FROM REGULATOR2



FROM/TO MPEG



FFC(1.25P)
CD8501
2H0C1001

FROM/TO DVD IN/OUT

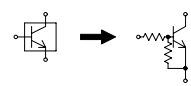
CP8502 (CP8002)
IMSA-9604S-12Z13

CVBS	1
GND	2
C(CVBS)	3
GND	4
Y(G)	5
GND	6
AUDIO-L	7
GND	8
AUDIO-R	9
ZERO	10
DVD RESET	11
GND	12

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

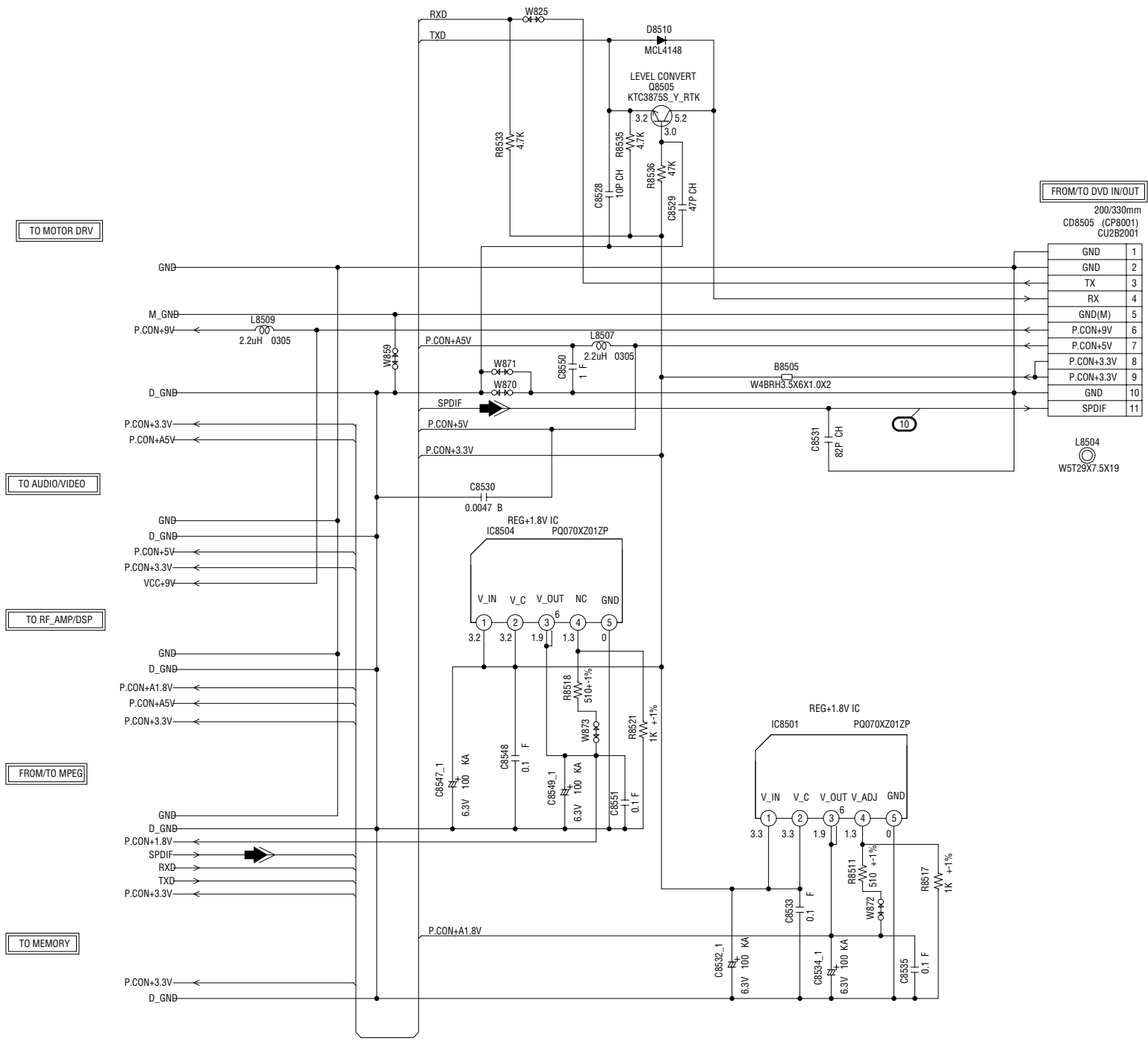
CAUTION: DIGITAL TRANSISTOR



- ◀ AUDIO SIGNAL(REC)
- ▶ PLAYBACK LUMINANCE SIGNAL
- ▶ PLAYBACK COLOR SIGNAL
- ▶▶ PLAYBACK VIDEO SIGNAL

PCB130
VMC297

REGULATOR2 SCHEMATIC DIAGRAM
(DVD PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

NOTE: THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

◀ DIGITAL AUDIO SIGNAL (PB)

PCB130
VMC297

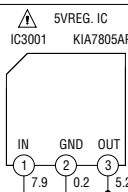
REGULATOR1 SCHEMATIC DIAGRAM
(AV PCB)

FROM POWER

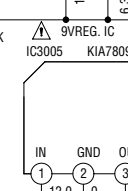
CP3001 (CP3803)
B2013H02-8P
1 SOUND_GND
2 SOUND+B
3 UNREG+5V
4 GND
5 GND
6 P.FAIL
7 UNREG+12V
8 UNREG+8V

SOUND_GND
SOUND+B
UNREG+5V

POWER_FAIL
UNREG+12V
UNREG+8V



UNREG+5V
UNREG+12V
UNREG+8V



UNREG+5V
UNREG+12V
UNREG+8V

FROM/TO REGULATOR2

CP8001 (C8505)
A2001WV2-11P
1 GND
2 GND
3 TX
4 RX
5 GND(M)
6 P.CON+9V
7 P.CON+5V
8 P.CON+3.3V
9 P.CON+3.3V
10 GND
11 SPDIF

TO SHASSIS

C130
0.001 B
W839
W840
W842
W845

FROM/TO AUDIO/VIDEO

CP8002 (CP8502)
IMSA-9604S-12Z14
12 CVBS
11 GND
10 C(CVBS)
9 GND
8 Y(G)
7 GND
6 AUDIO-L
5 GND
4 AUDIO-R
3 ZERO
2 DVD RESET
1 GND

TO SHASSIS

CD8002
2H0C1001

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

- ◀ PLAYBACK LUMINANCE SIGNAL
- ◀ PLAYBACK COLOR SIGNAL
- ◀◀ PLAYBACK VIDEO SIGNAL
- ▶ AUDIO SIGNAL(PB)
- ▶▶ DIGITAL AUDIO SIGNAL(PB)

PCB250
TMB560

(AV PCB)



- ◀◀ LUMINANCE SIGNAL
- ◀◀ TUNER VIDEO SIGNAL
- ◀◀ PLAYBACK VIDEO SIGNAL
- ◀◀ TUNER AUDIO SIGNAL

(AV PCB)

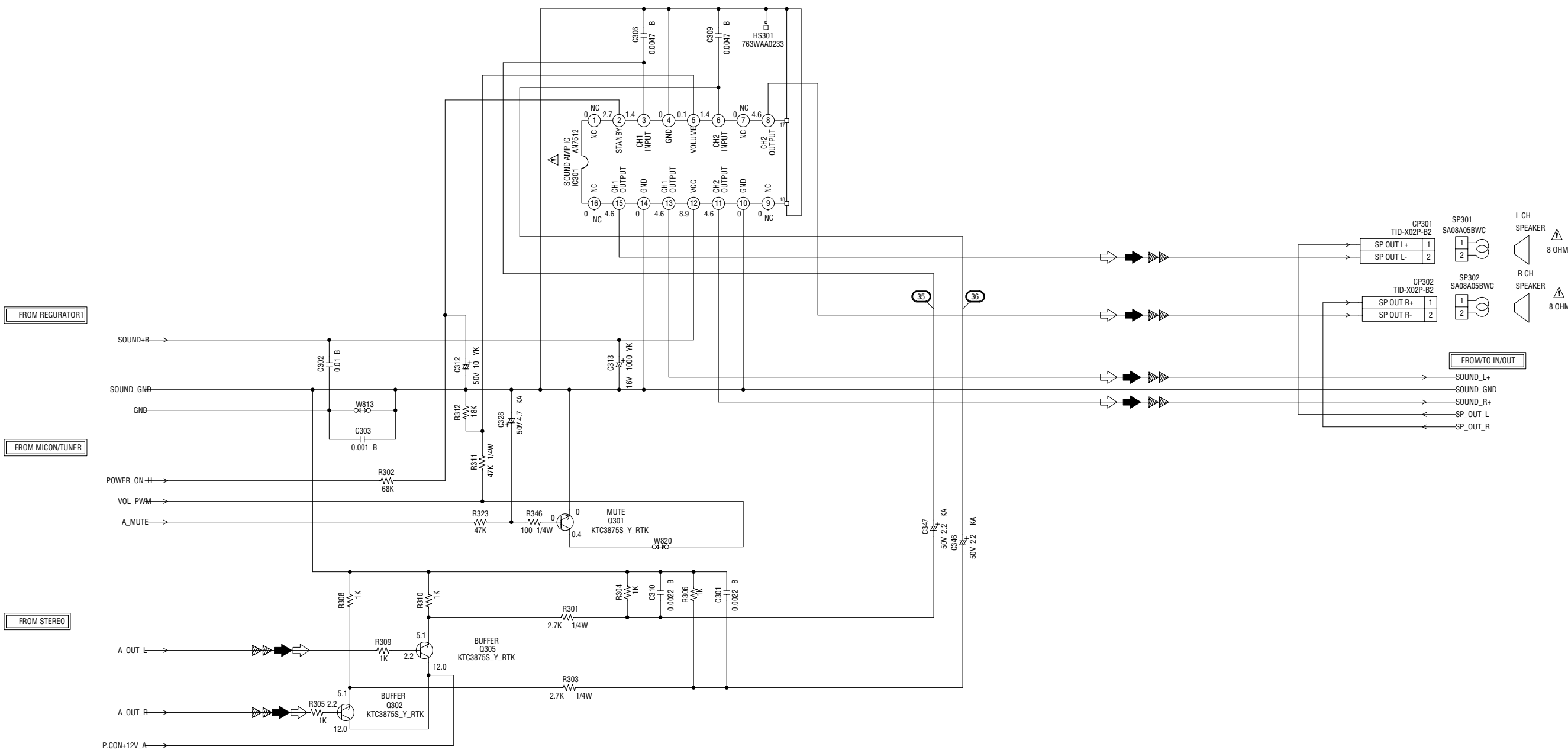


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

- ◀ DEFLECTION SIGNAL
- ◀ PLAYBACK LUMINANCE SIGNAL
- ◀ PLAYBACK COLOR SIGNAL
- ◀ TUNER VIDEO SIGNAL
- ◀ PLAYBACK VIDEO SIGNAL

CP802A (CP802B)	
B2013H02-6P	
CLAMP	1
GND	2
G.OUT	3
R.OUT	4
B.OUT	5
CLAMP_OFF	6

SOUND AMP SCHEMATIC DIAGRAM
(AV PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTIONSINCE THESE PARTS MARKED BY ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY .

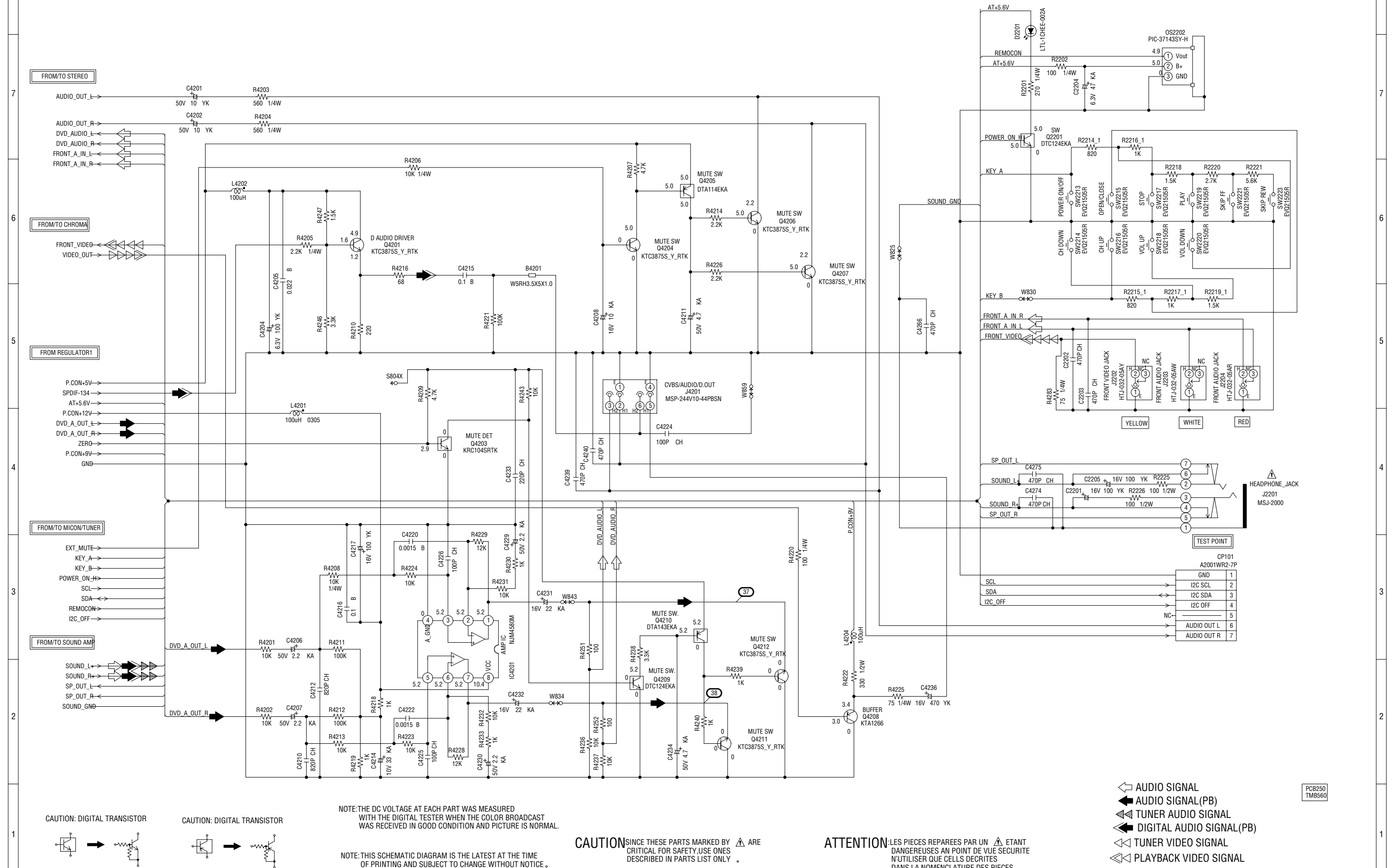
ATTENTIONLES PIECES REPARÉES PAR UN ÉTANT
DANGEREUSES AU POINT DE VUE SÉCURITÉ
N'UTILISER QUE CELLES DÉCRITES
DANS LA NOMENCLATURE DES PIÈCES.

AUDIO SIGNAL
 AUDIO SIGNAL(PB)
 TUNER AUDIO SIGNAL

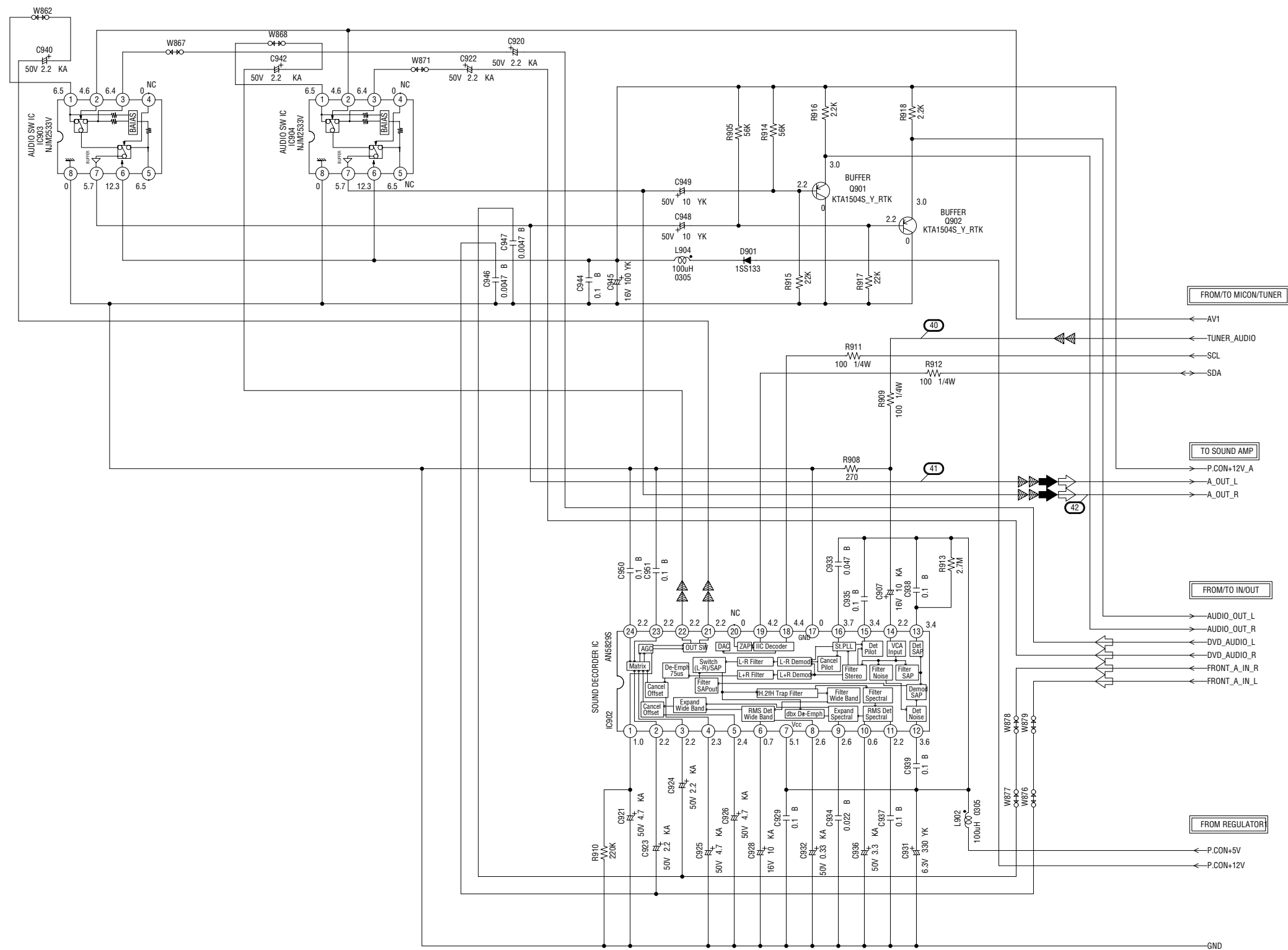
PCB250
TMB560

IN/OUT SCHEMATIC DIAGRAM

(AV PCB)



STEREO SCHEMATIC DIAGRAM (AV PCB)

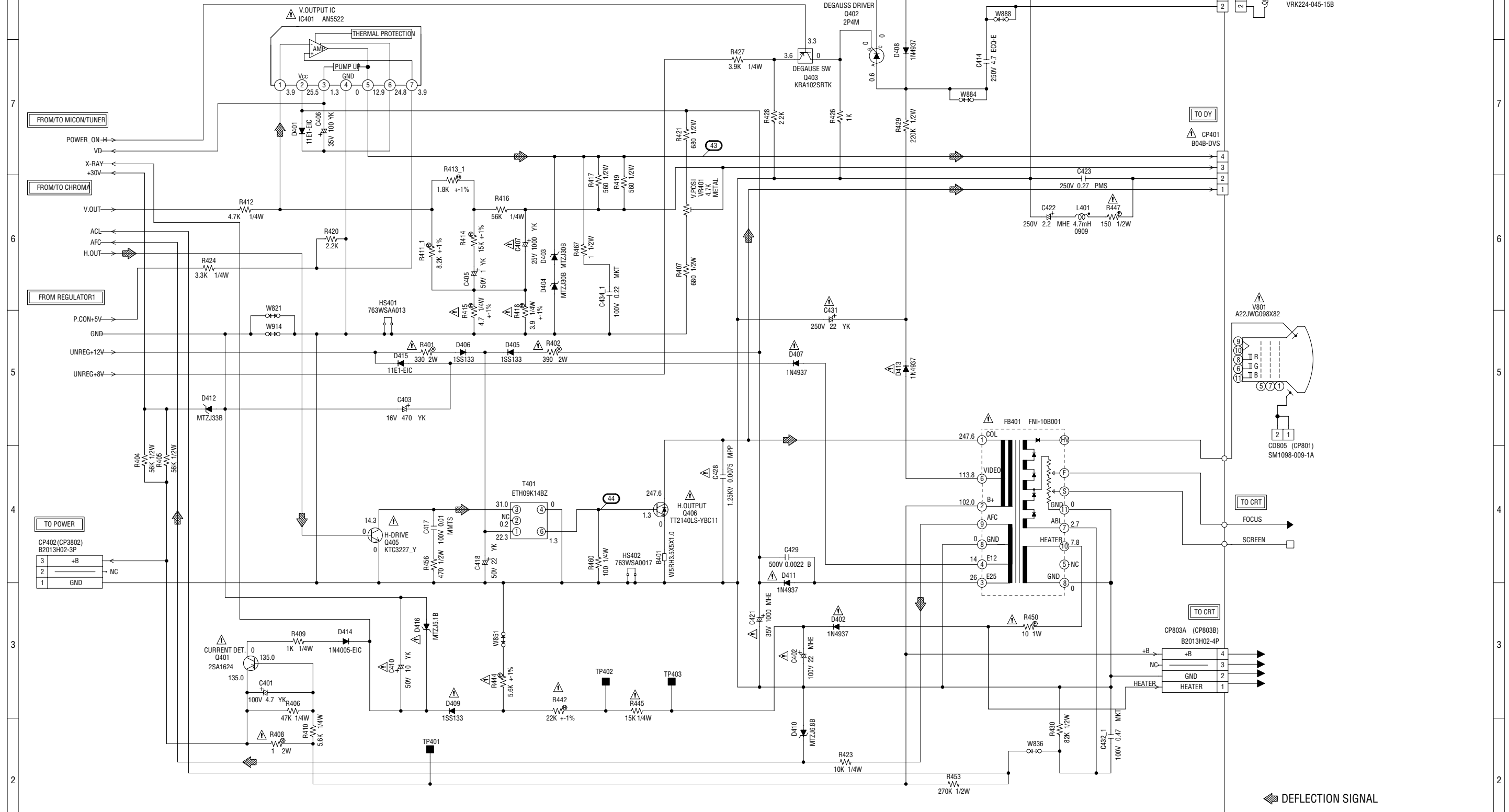


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

 TUNER AUDIO SIGNAL
 AUDIO SIGNAL(PB)
 AUDIO SIGNAL

DEFLECTION SCHEMATIC DIAGRAM (AV PCB)



DEFLECTION SIGNAL

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

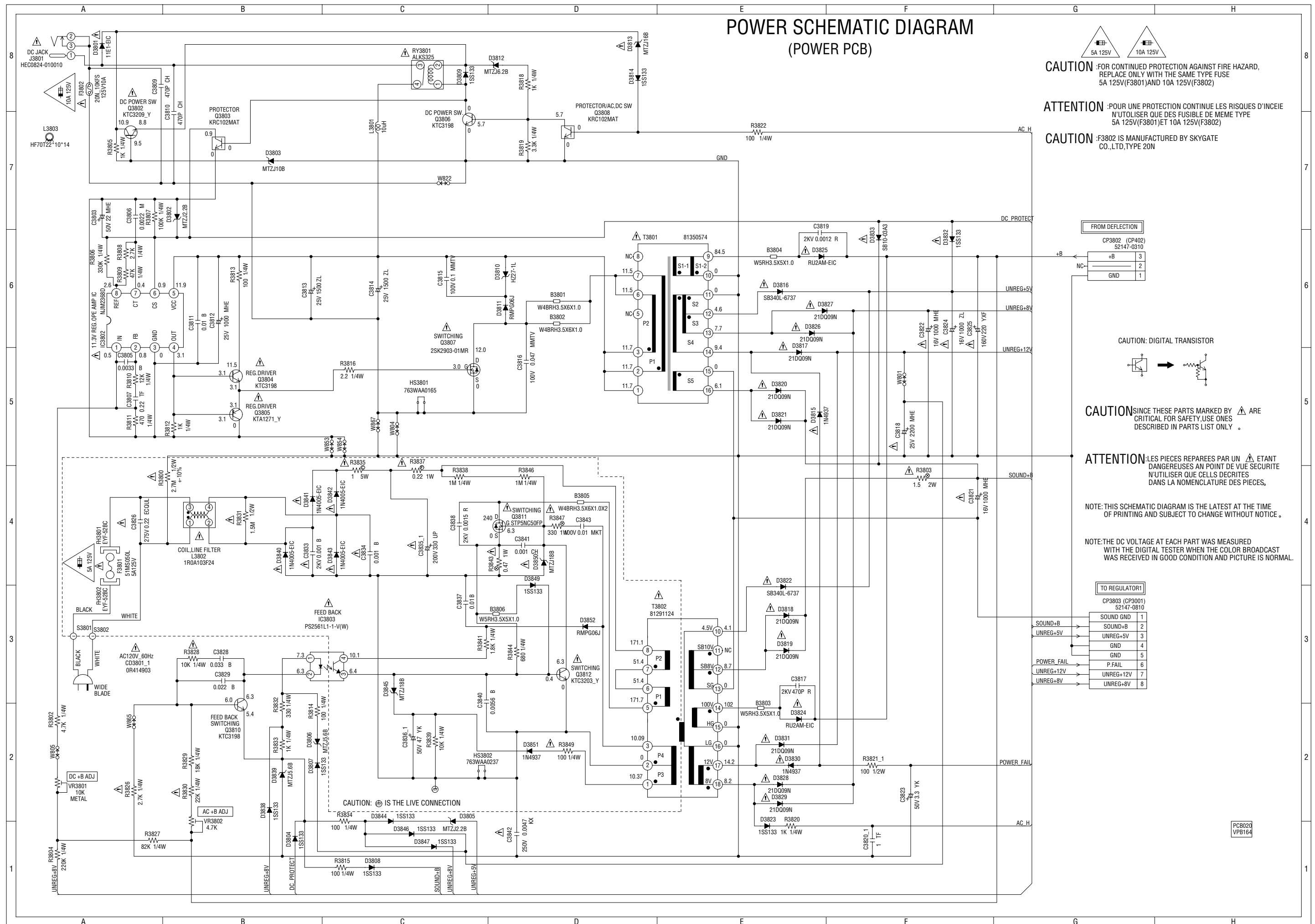
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

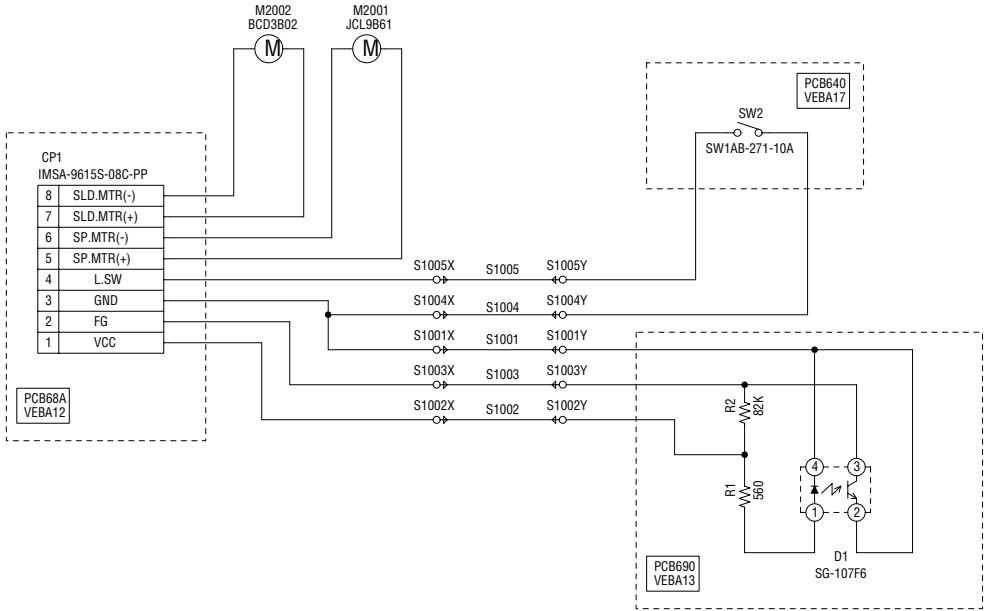
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB250
TMB560

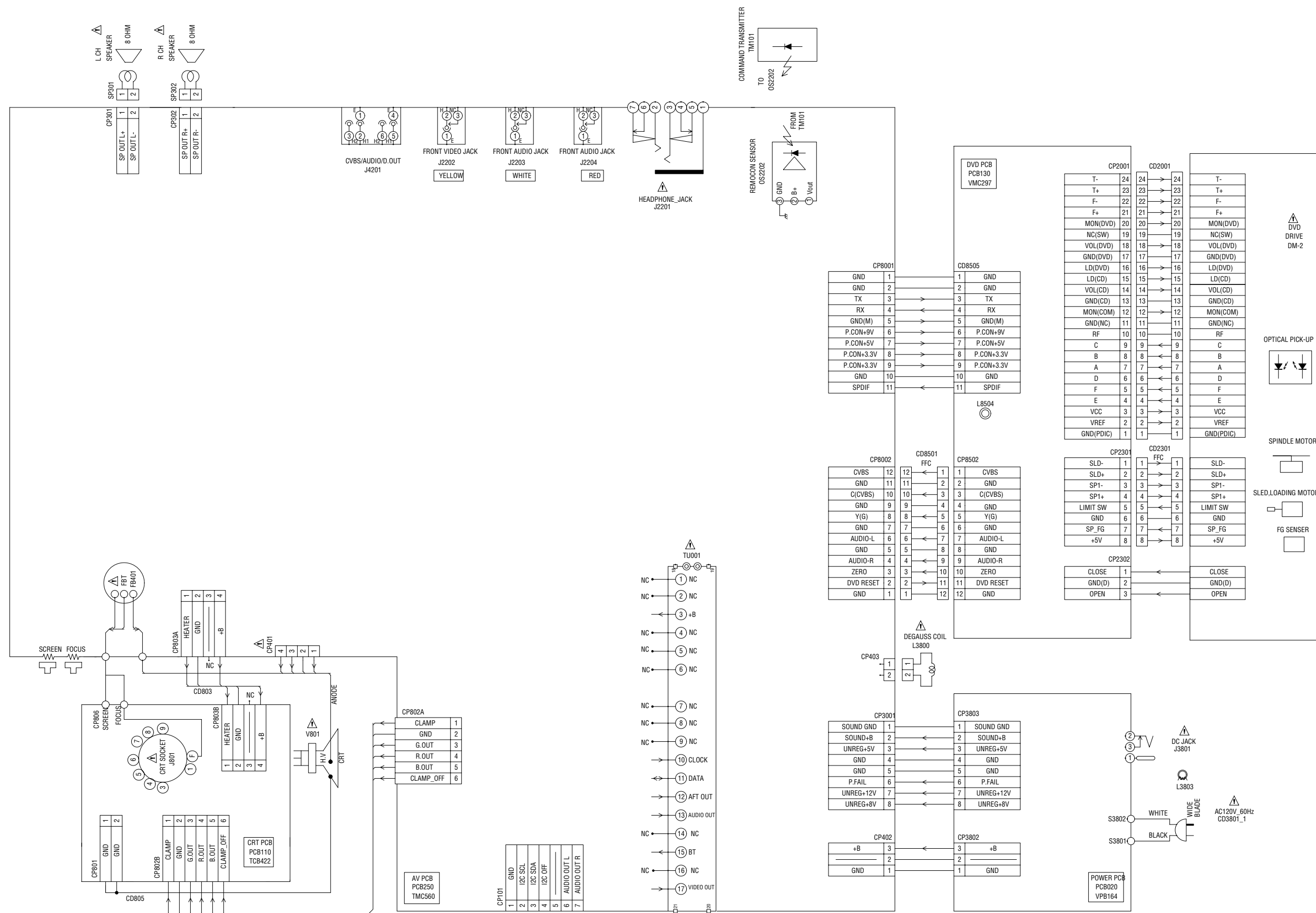
POWER SCHEMATIC DIAGRAM (POWER PCB)



SW/RELAY/FG SCHEMATIC DIAGRAM
(POWER PCB)



INTERCONNECTION DIAGRAM



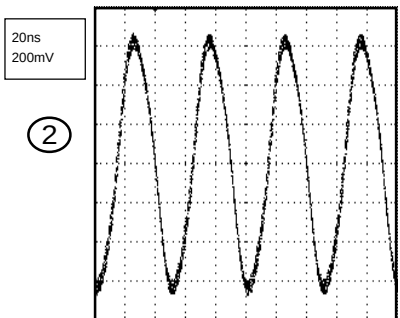
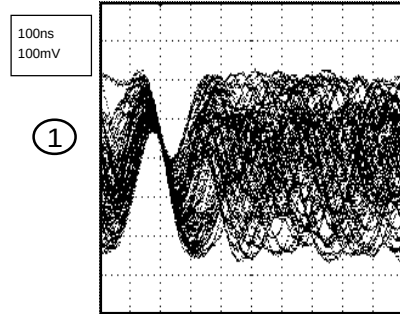
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

ATTENTION: LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

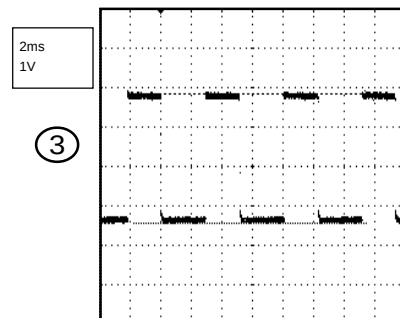
CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY .

WAVEFORMS

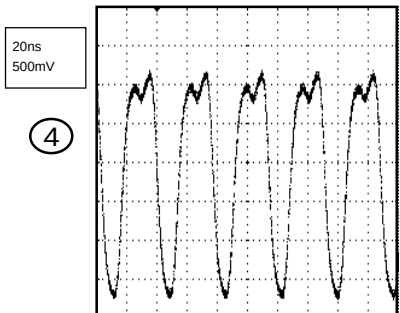
RF_AMP/DSP



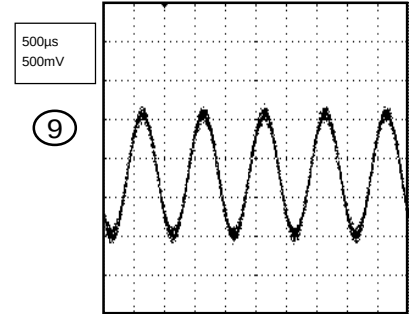
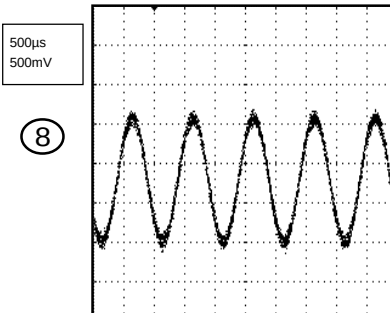
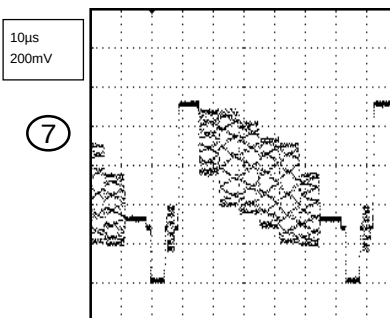
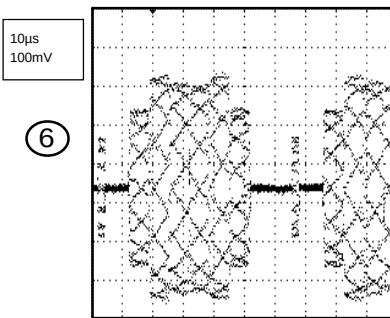
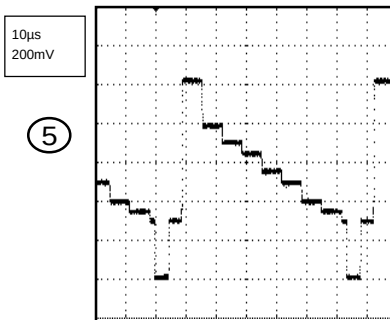
MOTOR DRIVE



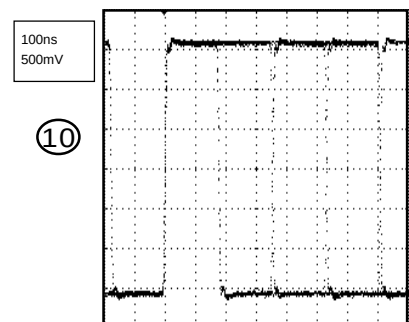
MPEG



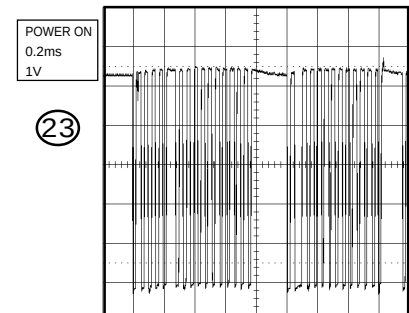
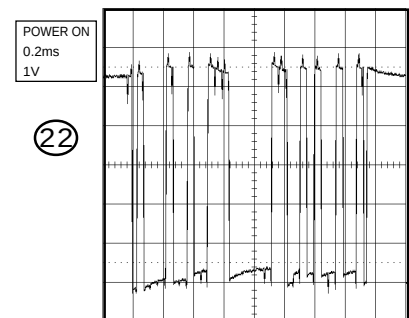
AUDIO/VIDEO



REGULATOR 2

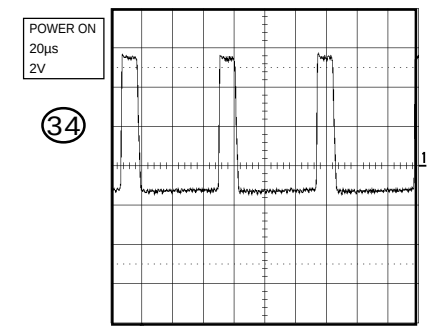
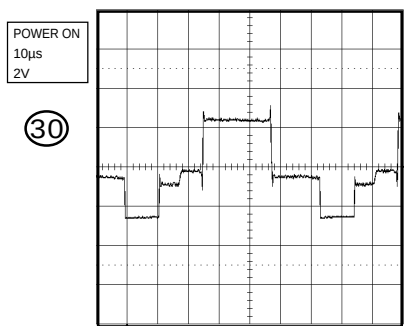
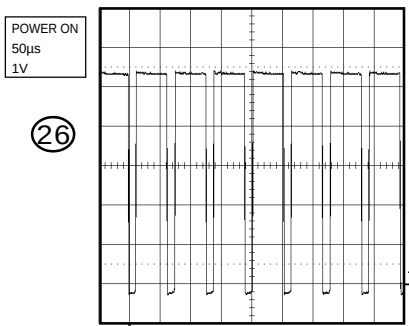
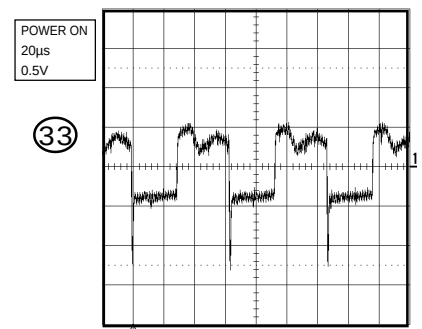
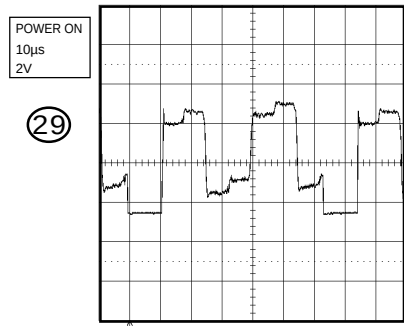
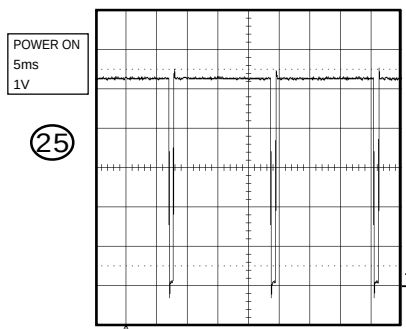
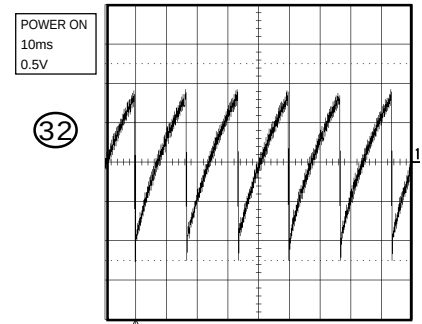
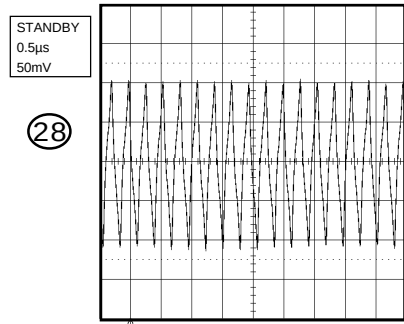
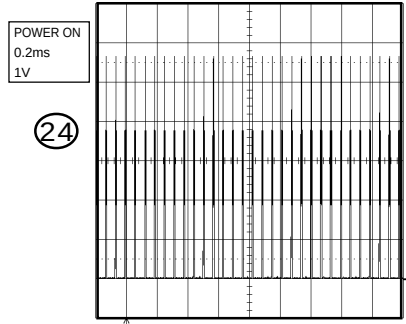


MICON/TUNER

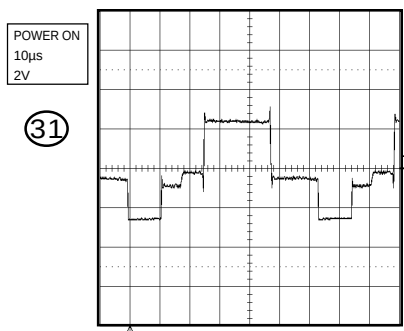
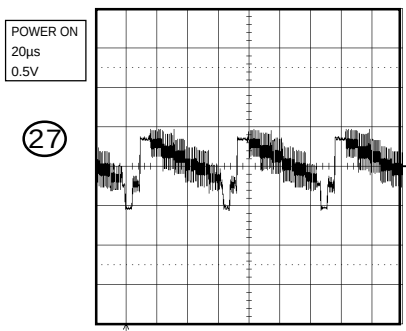


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

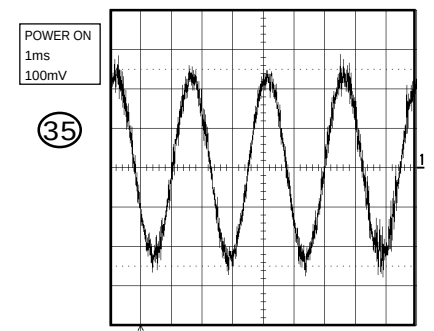
WAVEFORMS



CHROMA



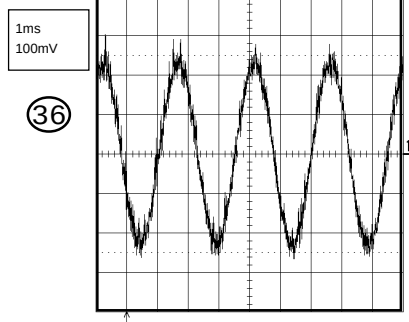
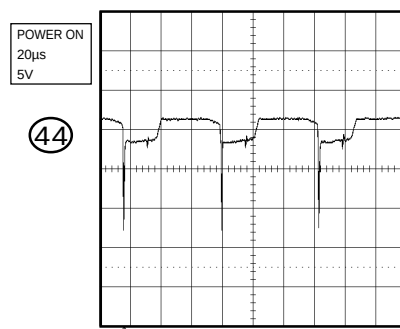
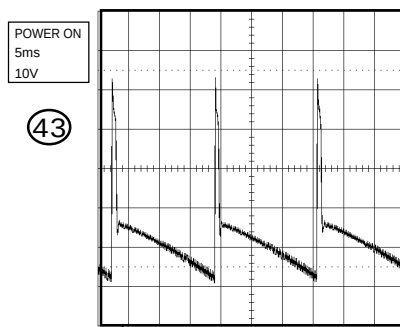
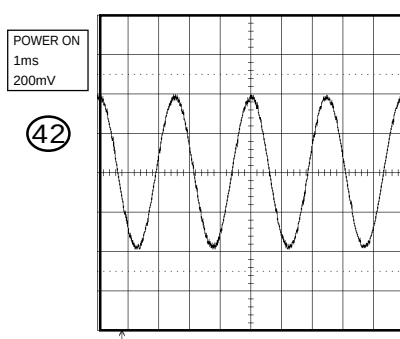
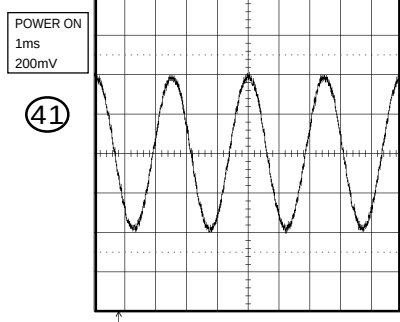
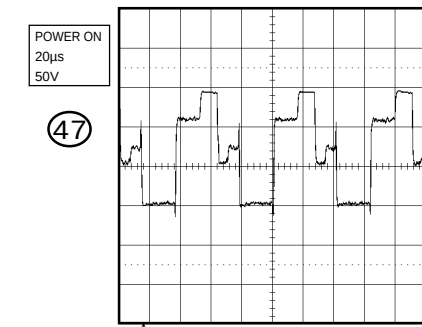
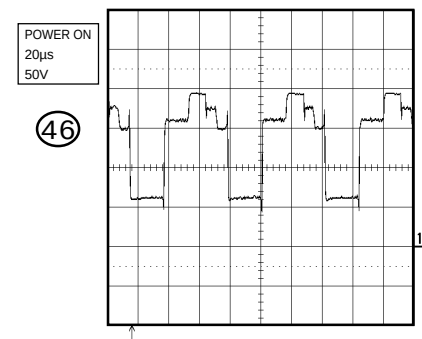
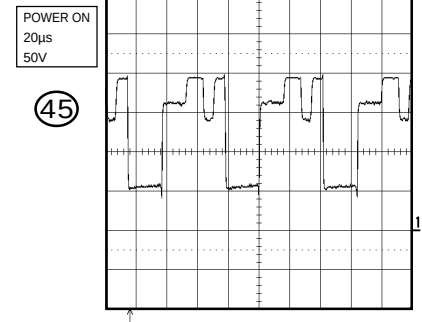
SOUND AMP



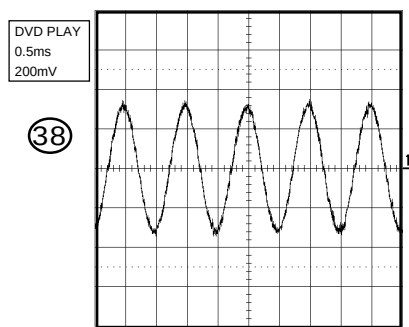
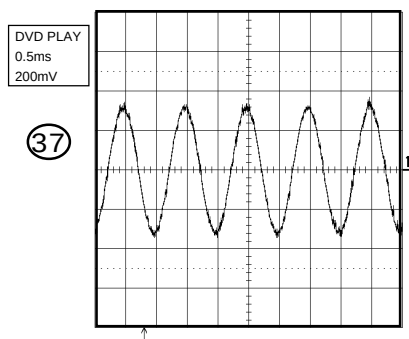
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

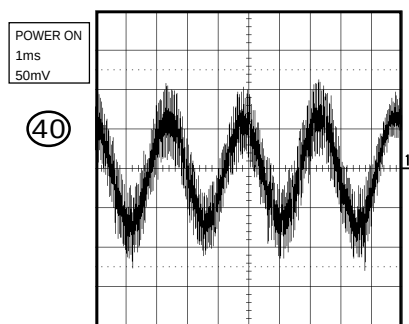
CRT



IN/OUT

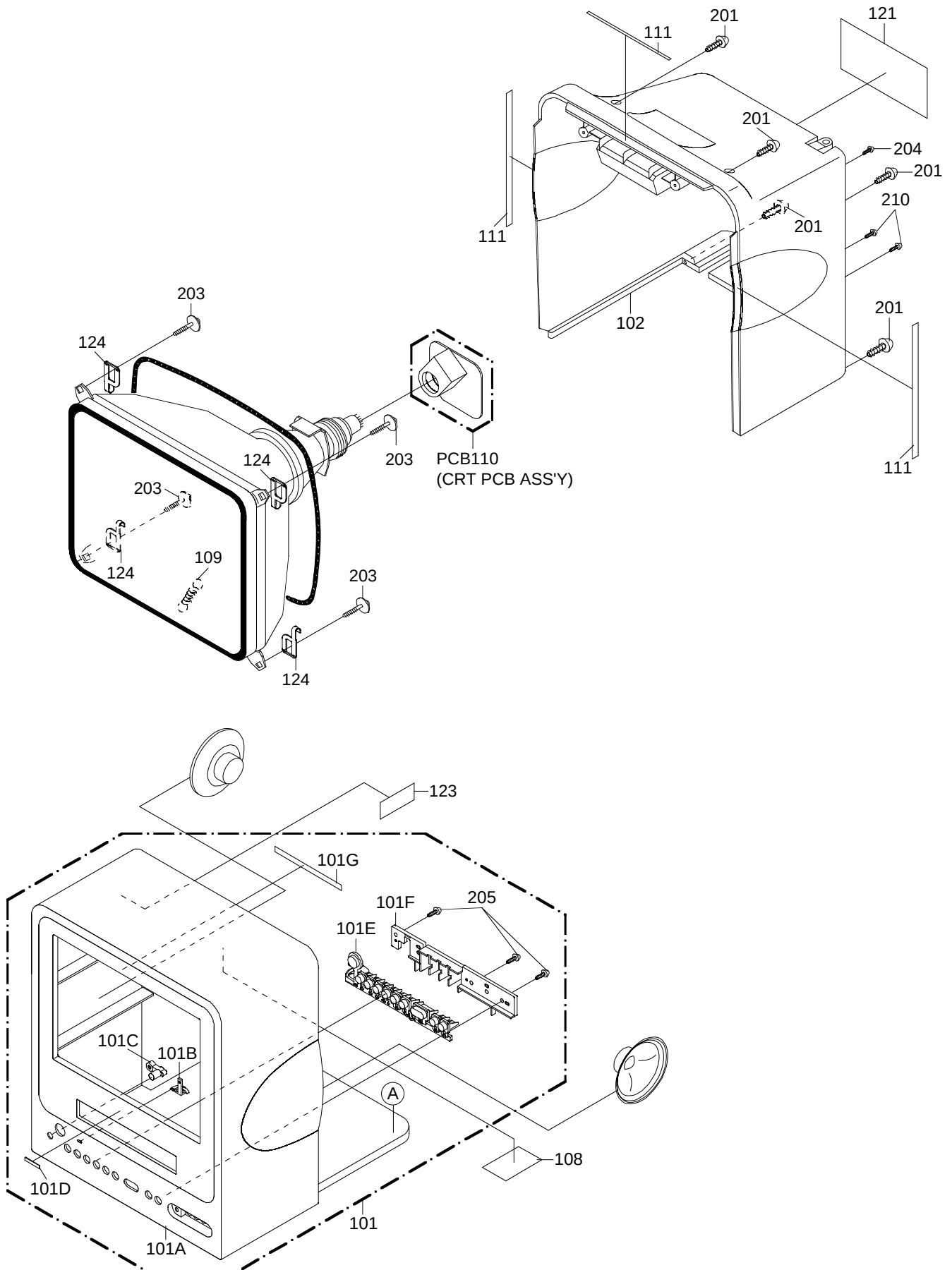


STEREO

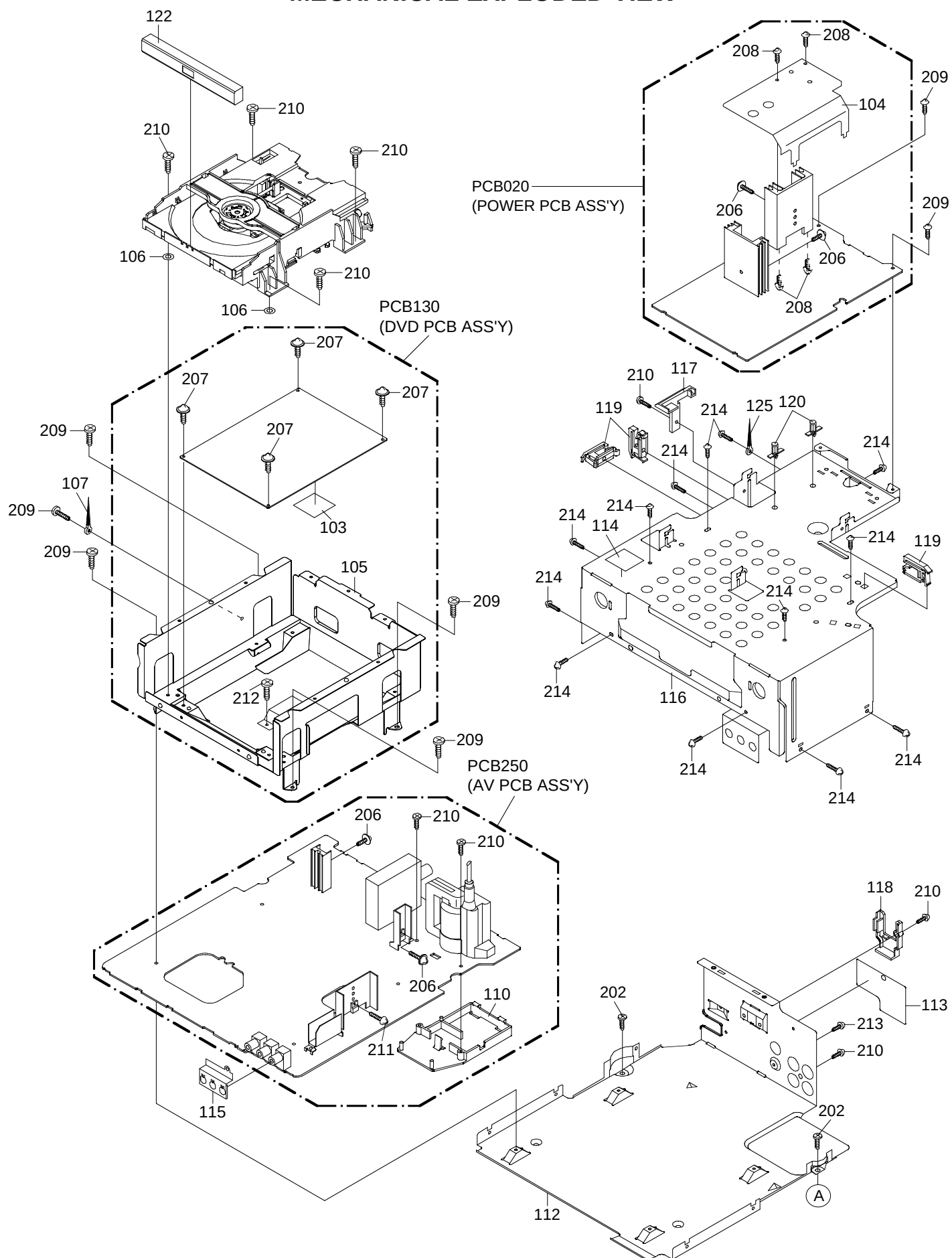


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

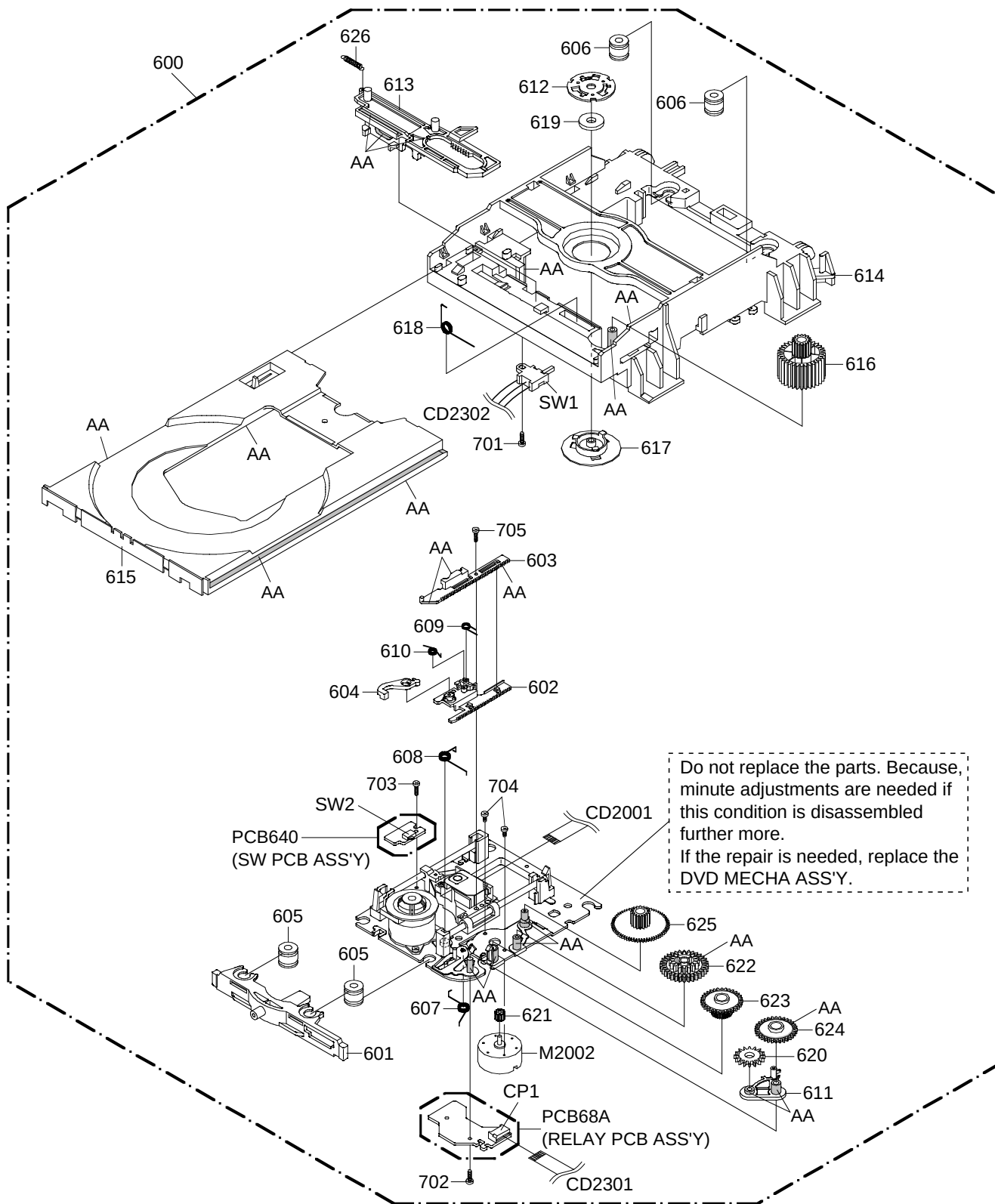
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW



DVD DECK EXPLODED VIEW



Do not replace the parts. Because, minute adjustments are needed if this condition is disassembled further more.
If the repair is needed, replace the DVD MECHA ASS'Y.

CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section.
Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
101	AE001204	A5I201B720	CABINET,FRONT ASSY	
101A	AE001648	701WPJ1243	CABINET,FRONT	
101B	AE001206	713WPA0259	GLASS,LED	
101C	AE001207	713WPA0260	GUIDE,REMOCON	
101D	AD302193	7235490034	BADGE,BRAND	
101E	AE001649	735WPB0289	BUTTON,FRAME	
101F	AE001209	738WPA0065	STOPPER,BUTTON	
101G	AE000174	800WQ00056	FELT SHEET	
102	AE001210	A5I201B740	CABINET,BACK ASSY	
103	AD302398	7232020746	SHEET,IC	
104	AE001211	753WSA0159	SHIELD,TV MAIN PCB	
105	AE001212	761WSA0122	ANGLE,DECK	
106	AE001213	800WB0A008	FIBER WASHER	
107	AD300758	899EFBA001	WIRING CLIP	
108	AE001214	7260000330	SHEET,CRT SERVICEMAN	
109	BZ710294	741WUA0002	SPRING,EARTH	
110	AE001215	761WPA0275	HOLDER,FBT	
111	AE000003	800WQ00045	FELT SHEET	
112	AE001216	702WSA0172	PLATE,BOTTOM	
113	AE001217	7230007621	SHEET,JACK	
114	AD301688	7260000341	SHEET,CAUTION	
115	BZ710671	752WSA0292	SHIELD,AV JACK	
116	AE001218	752WSA0312	SHIELD,TOP	
117	BZ710012	761WPA0151	HOLDER,M/PCB	
118	AE001219	761WPA0285	HOLDER,BUSH	
119	AE000164	774WPA0005	HOLDER,WIRE-2	
120	BZ710284	890PS70100	PUSH SPACER	
121	AE001650	7225490130	SHEET,RATING	
122	AE001651	712WPJ0846	PLATE,TRAY-FRONT	
123	AD300007	7230006755	SHEET,CAUTION	
124	AE001222	762WPA0012	HOLDER,CRT WIRE	
125	BZ710039	8995034000	CORD CLIP UL CO.	
201	BZ710035	8117540A64	SCREW,TAPPING(B0) TRUSS	4x16
202	BZ710449	8117140804	SCREW,TAPPING(B) PAN	4x8
203	BZ710450	8141J40B84	SCREW,TAP TITE(P) GW15	4x28
204	BZ710031	8110630A04	SCREW,TAP TITE(P) BRAZIER	3x10
205	BZ710030	8110630804	SCREW,TAP TITE(P) BRAZIER	3x8
206	BZ710239	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
207	BZ710562	8109I30804	SCREW,TAP TITE(B) WH7	3x8
208	BZ710019	8109630802	SCREW,TAP TITE(B) BRAZIER	3x8
209	BZ710408	8109630604	SCREW,TAP TITE(B) BRAZIER	3x6
210	BZ710678	8109230804	SCREW,TAP TITE(B) BIND	3x8
211	BZ710018	8107630804	SCREW,TAP TITE(S) BRAZIER	3x8
212	BZ710337	8107930604	SCREW,CUP(S)	3x6
213	AD301968	8107230404	SCREW,TAP TITE(S) BIND	3x4
214	AE001652	8109230604	SCREW,TAP TITE(B) BIND	3x6
---	AE001653	7230007712	SHEET,BAR CODE	
---	AE000116	725000A055	SHEET,CAR CORD	
---	AE000093	791WHA0090	LAMIFILM,BAG	
---	AE001225	792WHA0429	PACKAGE,TOP	
---	AE001226	792WHA0430	PACKAGE,BOTTOM	
---	AE001654	793WCD1524	GIFT BOX	
---	AE001228	A5I201B975	INSTRUCTION BOOK KIT	
---	AD302404	J5500817	REGISTRATION CARD	
---	AE001184	J5F10129A	INFORMATION SHEET	
---	AE001229	J5I20101A	INSTRUCTION BOOK	
---	AE000060	JB5UD300	POLYBAG,INSTRUCTION(RED CAUTION)	

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
600	AD301821	A5E601V420D	DVD MECHA ASS'Y	A5E601V420D
601	AD301822	92P100022A	TRAVERSE HOLDER	
602	AD301823	92P100032A	RACK,FEED 1	
603	AD301824	92P100033A	RACK,FEED 2	
604	AD301825	92P100035A	LEVER,RACK FEED	
605	AD301826	92P200006A	INSULATOR(F)	
606	AD301827	92P200007A	INSULATOR(R)	
607	AD301850	92P300008A	SPRING,CHASSIS	
608	AD301849	92P300005A	SPRING,ARM IDLER	
609	AD301830	92P300006A	SPRING,RACK FEED 2	
610	AD301831	92P300007A	SPRING,RACK FEED 1	
611	AD301848	92P100031A	ARM,IDLER	
612	AD301833	92P000001A	CLAMPER PLATE	
613	AD301834	92P100019A	RACK,LOADING	
614	AD301835	92P100020A	MAIN FRAME M	
615	AD301836	92P100021A	TRAY	
616	AD301837	92P100023A	GEAR,MAIN	
617	AD301838	92P100024A	CLAMPER	
618	AD301839	92P300002A	SPRING,RACK LOADING	
619	AD301840	92P400002A	MAGNET,CLAMPER	
620	AD301847	92P100030A	GEAR,IDLER	
621	AD301842	92P100025A	GEAR,MOTOR	
622	AD301843	92P100026A	GEAR,MIDDLE 1	
623	AD301844	92P100027A	GEAR,MIDDLE 2	
624	AD301845	92P100028A	GEAR,MIDDLE 3	
625	AD301846	92P100029A	GEAR,FEED	
626	AE001179	92P300009A	SPRING,RACK L	
701	BZ710187	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
702	AD301851	8110120604	SCREW,TAP TITE(P) PAN	2x6
703	AD301852	8107220504	SCREW,TAP TITE(S) BIND	2x5
704	AD301853	8140117254	SCREW,PAN	M1.7x2.5 P3
705	AD301913	8110220804	SCREW,TAP TITE(P) BIND	2x8
CD2001	AD301855	122H001901	CORD JUMPER	2H001901
CD2301	AD301856	122H080701	CORD JUMPER	2H080701
CD2302	AE000148	06CH232101	CORD CONNECTOR	CH232101 or
	AD301857	06CH232003	CORD CONNECTOR	CH232003
CP1	AD301858	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
M2002	AD301861	1515S98001	FEED MOTOR	BCD3B81
PCB640	AD301862	A5E601V640	PCB ASS'Y	VEBA17A
PCB68A	AD301863	A5E601V680	PCB ASS'Y	VEBA12A
SW1	AD301866	0515S32001	SWITCH	SSS-23-6
SW2	AE001158	0500101036	PUSH SWITCH	ESE22MH22



ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
RESISTORS			
△ R401	AD301016	R3X28A331J	330 OHM 2W
△ R402	BZ210280	R3X28A391J	390 OHM 2W
R408	BZ210083	R3X28A010J	1 OHM 2W
△ R415	AD302063	R4X5T44R7F	4.7 OHM 1/4W
△ R418	AE001200	R4X5T43R9F	3.9 OHM 1/4W
△ R442	AD300419	R4X5T6223F	22K OHM 1/6W
△ R444	AD300036	R4X5T6562F	5.6K OHM 1/6W
△ R445	AD302182	R002T4153J	15K OHM 1/4W
△ R447	BZ210185	R65582151J	150 OHM 1/2W
△ R450	BZ210187	R65581100J	10 OHM 1W
R803	BZ210099	R3X181153J	15K OHM 1W
△ R805	BZ210099	R3X181153J	15K OHM 1W
R807	BZ210099	R3X181153J	15K OHM 1W
△ R3800	BZ210080	R0G3K2275K	2.7M OHM 1/2W
△ R3803	AE001199	R3X28A1R5J	1.5 OHM 2W
△ R3826	AD300651	R002T4272J	2.7K OHM 1/4W
△ R3830	BZ210192	R002T4223J	22K OHM 1/4W
△ R3831	BZ210206	R002T2155J	1.5M OHM 1/2W
△ R3835	BZ210188	R5Y2CD010J	1 OHM 5W
△ R3837	BZ210190	R63581R22J	0.22 OHM 1W
△ R3843	AD300659	R3X181R47J	0.47 OHM 1W
△ R3847	BZ210217	R3X181331J	330 OHM 1W
CAPACITORS			
△ C402	BZ110020	E5EZT8220M	22 UF 100V
△ C407	BZ110053	E02LF3102M	1000 UF 25V
C414	BZ110085	P21503475K	4.7 UF 250V ECQ-E
△ C421	BZ110055	E5EZF4102M	1000 UF 35V
C423	AD301144	P4J7F3274J	0.27 UF 250V PMS
△ C428	AE001198	P4N8FJ752H	0.0075UF 1.25KV
△ C431	BZ110204	E0ELFD220M	22 UF 250V
C802	AD300078	C0JBB0713K	0.001 UF 2KV B
C3812	BZ110032	E5EZF3102M	1000 UF 25V
C3813	BZ110091	E62FF3152M	1500 UF 25V
C3814	BZ110091	E62FF3152M	1500 UF 25V
C3817	BZ110176	C03L0R7Q2K	470 PF 2KV R
△ C3818	BZ110101	E5EZF3222M	2200 UF 25V
C3819	AE001196	C0PLRR7B3K	0.0012 UF 2KV R
△ C3821	BZ110028	E5EZT2102M	1000 UF 16V
△ C3822	BZ110028	E5EZT2102M	1000 UF 16V
△ C3824	AE001197	E62FF2102M	1000 UF 16V
△ C3825	AD301025	E62NFB221M	220 UF 160V
△ C3826	BZ110025	P2122B224M	0.22 UF 275V ECQUL
△ C3833	AD300078	C0JBB0713K	0.001 UF 2KV B
△ C3834	AD300078	C0JBB0713K	0.001 UF 2KV B
△ C3835	AD301635	E51CGC331M	330 UF 200V
C3838	BZ110191	C03L0R7E3K	0.0015UF 2KV R
△ C3842	AD301391	CD39E0MQ3M	0.0047UF 250V
DIODES			
D101	BZ410006	D1VT001330	1SS133T-77
D102	BZ410021	D97U05R61B	MTZJ5.6B T-77
D103	BZ410021	D97U05R61B	MTZJ5.6B T-77
D105	BZ410006	D1VT001330	1SS133T-77
D106	BZ410061	D97U01001B	MTZJ10B T-77
D107	BZ410006	D1VT001330	1SS133T-77
D401	BZ410043	D2WT011E10	11E1-EIC
△ D402	AD300731	D2WXN49370	1N4937
D403	BZ410019	D97U03001B	MTZJ30B T-77
D404	BZ410019	D97U03001B	MTZJ30B T-77
D405	BZ410006	D1VT001330	1SS133T-77
D406	BZ410006	D1VT001330	1SS133T-77
△ D407	AD300731	D2WXN49370	1N4937
D408	AD300731	D2WXN49370	1N4937
△ D409	BZ410006	D1VT001330	1SS133T-77
D410	BZ410022	D97U06R81B	MTZJ6.8B T-77
△ D411	AD300731	D2WXN49370	1N4937
D412	BZ410037	D97U03301B	MTZJ33B T-77
△ D413	AD300731	D2WXN49370	1N4937
D414	BZ410085	D2WXN40050	1N4005-EIC
D415	BZ410043	D2WT011E10	11E1-EIC
△ D416	BZ410020	D97U05R11B	MTZJ5.1B T-77
D603	BZ410085	D2WXN40050	1N4005-EIC

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
DIODES			
D801	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D802	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D803	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D901	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D2001	BZ410120	DDARDS1210	DIODE,SILICON KDS121RTK
D2002	BZ410121	DDARDS1200	DIODE,SILICON KDS120RTK
D2201	BZ410087	0021E2Q140	LED LTL-1CHEE-002A
D3007	BZ410021	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77
D3801	BZ410043	D2WT011E10	DIODE,SILICON 11E1-EIC
D3802	BZ410067	D97U02R21B	DIODE,ZENER MTZJ2.2B T-77
D3803	BZ410061	D97U01001B	DIODE,ZENER MTZJ10B T-77
D3804	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3805	BZ410067	D97U02R21B	DIODE,ZENER MTZJ2.2B T-77
D3806	BZ410021	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77
D3807	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3808	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3809	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3810	BZ410018	D94TA27011	DIODE,ZENER HZ27-1L TD
D3811	BZ410014	D2LTPG06J0	DIODE,SILICON RMPG06J-G3
D3812	BZ410066	D97U06R21B	DIODE,ZENER MTZJ6.2B T-77
D3813	BZ410065	D97U01601B	DIODE,ZENER MTZJ16B T-77
D3814	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
△D3815	AD300731	D2WXN49370	DIODE,SILICON 1N4937
△D3816	BZ410115	D2LKB340L0	DIODE,SCHOTTKY SB340L-6737
△D3817	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3818	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3819	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3820	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3821	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3822	BZ410115	D2LKB340L0	DIODE,SCHOTTKY SB340L-6737
D3823	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
△D3824	BZ410080	D2WXRU2AM0	DIODE,SILICON RU2AM-EIC
△D3825	BZ410080	D2WXRU2AM0	DIODE,SILICON RU2AM-EIC
△D3826	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3827	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3828	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3829	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
△D3830	AD300731	D2WXN49370	DIODE,SILICON 1N4937
△D3831	BZ410010	D28T21DQN9	DIODE,SCHOTTKY 21DQ09N-TA2B1
D3832	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
△D3833	BZ410008	D23U1003A3	DIODE,SCHOTTKY SB10-03A3
D3838	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3839	BZ410021	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77
△D3840	BZ410085	D2WXN40050	DIODE,SILICON 1N4005-EIC
△D3841	BZ410085	D2WXN40050	DIODE,SILICON 1N4005-EIC
△D3842	BZ410085	D2WXN40050	DIODE,SILICON 1N4005-EIC
△D3843	BZ410085	D2WXN40050	DIODE,SILICON 1N4005-EIC
D3844	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3845	AD300671	D97U01801B	DIODE,ZENER MTZJ18B T-77
D3846	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3847	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3849	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3850	AD300671	D97U01801B	DIODE,ZENER MTZJ18B T-77
D3851	AD300731	D2WXN49370	DIODE,SILICON 1N4937
D3852	BZ410014	D2LTPG06J0	DIODE,SILICON RMPG06J-G3
D8501	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8502	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8503	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8504	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8505	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8506	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8507	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8508	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
D8510	BZ410119	DDDRL41480	DIODE,SILICON MCL4148
ICS			
IC101	AD301763	I55D06072A	IC OEC6072A
IC103	AD301641	I9UF032310	IC PST3231NR
IC199	AE001195	A5I201B255	IC S-24C04BDP-LA
△IC301	BZ611141	I0FDP75120	IC AN7512
△IC401	BZ611053	I01TD55220	IC AN5522
IC601	AD301765	I03FC63190	IC LA76319M-MPB-E

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
ICS			
IC902	AD300059	I01FF58290	AN5829S
IC903	BZ611104	I0QF02533V	NJM2533V(Te2)
IC904	BZ611104	I0QF02533V	NJM2533V(Te2)
IC2001	AD302391	I5PKL63160	STM6316ATXXZ
IC2301	BZ611126	I03F065600	LA6560
IC2303	AD301770	I07E00358F	BA10358F-E2
IC2304	AD301770	I07E00358F	BA10358F-E2
△IC3001	BZ611015	I1KA97805A	KIA7805API
△IC3002	BZ611015	I1KA97805A	KIA7805API
△IC3005	BZ611033	I1KA97809A	KIA7809API
△IC3802	BZ611096	I0QD023680	NJM2368D
△IC3803	AD301771	000220001W	PS2561L1-1-V(W)
IC4002	AD302392	I5PK055890	STM5589AVA
IC4003	AD301774	I5CF0CU040	SN74AHC04PWR
IC4007	AE000526	IF8J064007	IS42S16400-7T
IC4012	AE000527	I5PJ060ET9	M29W160ET90N6
IC4201	BZ611074	I0QF045800	NJM4580M or
	AE001295	I0QJ045800	NJM4580M(Te1)
IC4202	AE001069	I0UF015020	MM1502XNRE
IC8501	BZ611130	I0GF9XZ010	PQ070XZ01ZP
IC8502	AD301777	I17F0742K0	PCM1742KE/2K
IC8504	BZ611130	I0GF9XZ010	PQ070XZ01ZP
TRANSISTORS			
Q105	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q106	BZ510108	TAAA1504SY	KTA1504S_Y_RTK
Q301	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q302	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q305	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q401	BZ510004	TA3T016240	2SA1624-AA
△Q402	BZ510052	TF2002P4M0	2P4M
Q403	BZ510090	TPAAB05001	KRA102SRTK
△Q405	BZ510097	TCAT03227Y	KTC3227_Y-AT
△Q406	AD301779	TD3Q021400	TT2140LS-YBC11
Q601	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q602	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q605	BZ510025	TPYJB05001	DTA114EKAT146
△Q804	AD300674	TCAT032070	KTC3207-AT
△Q805	AD300674	TCAT032070	KTC3207-AT
△Q806	AD300674	TCAT032070	KTC3207-AT
Q901	BZ510108	TAAA1504SY	KTA1504S_Y_RTK
Q902	BZ510108	TAAA1504SY	KTA1504S_Y_RTK
Q2001	BZ510112	T67J1036K0	2SA1036KT146
Q2002	BZ510001	T6YJ1037K0	2SA1037AKT146R,S
Q2003	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q2004	BZ510113	T27T030180	2SK3018
Q2005	BZ510113	T27T030180	2SK3018
Q2006	BZ510112	T67J1036K0	2SA1036KT146
Q2007	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q2008	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q2201	BZ510021	TNYJC05001	DTC124EKAT146
Q2301	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q2302	BZ510108	TAAA1504SY	KTA1504S_Y_RTK
Q2303	BZ510001	T6YJ1037K0	2SA1037AKT146R,S
Q2304	BZ510071	TNAAB05003	KRC102SRTK or
	BZ510020	TNYJB05001	DTC114EKAT146
Q2305	BZ510108	TAAA1504SY	KTA1504S_Y_RTK
△Q3000	BZ510057	TAAT01281Y	KTA1281_Y
Q3001	BZ510020	TNYJB05001	DTC114EKAT146
Q3002	BZ510105	TCAT03209Y	KTC3209_Y-AT
△Q3003	AD301934	TBA0013660	KTb1366(O,Y)
△Q3004	BZ510070	TCAT032034	KTC3203_Y-AT
△Q3005	BZ510105	TCAT03209Y	KTC3209_Y-AT
△Q3006	BZ510070	TCAT032034	KTC3203_Y-AT
Q3007	BZ510057	TAAT01281Y	KTA1281_Y
△Q3008	BZ510070	TCAT032034	KTC3203_Y-AT
Q3009	BZ510070	TCAT032034	KTC3203_Y-AT
Q3010	BZ510109	TCAA3875SY	KTC3875S_Y_RTK
Q3012	BZ510081	TPYJA05001	DTA143EKAT146
Q3013	BZ510020	TNYJB05001	DTC114EKAT146
△Q3802	BZ510105	TCAT03209Y	KTC3209_Y-AT
Q3803	BZ510096	TNATB03005	KRC102MAT

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
TRANSISTORS			
△ Q3804	BZ510069	TCATC31980	TRANSISTOR,SILICON
△ Q3805	BZ510077	TAAT012714	TRANSISTOR,SILICON
Q3806	BZ510069	TCATC31980	TRANSISTOR,SILICON
△ Q3807	BZ510053	T410029030	FET
Q3808	BZ510096	TNATB03005	COMPOUND TRANSISTOR
Q3810	BZ510069	TCATC31980	TRANSISTOR,SILICON
△ Q3811	BZ510093	TJXG5NC500	FET
△ Q3812	BZ510070	TCAT032034	TRANSISTOR,SILICON
Q4001	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4002	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4003	BZ510108	TAAA1504SY	TRANSISTOR,SILICON
Q4201	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4203	BZ510088	TNAAD05001	COMPOUND TRANSISTOR
Q4204	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4205	BZ510025	TPYJB05001	COMPOUND TRANSISTOR
Q4206	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4207	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4208	BZ510073	TAATA12660	TRANSISTOR,SILICON
Q4209	BZ510021	TNYJC05001	COMPOUND TRANSISTOR
Q4210	BZ510081	TPYJA05001	COMPOUND TRANSISTOR
Q4211	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q4212	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q8501	BZ510108	TAAA1504SY	TRANSISTOR,SILICON
Q8502	BZ510108	TAAA1504SY	TRANSISTOR,SILICON
Q8503	BZ510108	TAAA1504SY	TRANSISTOR,SILICON
Q8505	BZ510109	TCAA3875SY	TRANSISTOR,SILICON
Q8506	BZ510071	TNAAB05003	COMPOUND TRANSISTOR
Q8507	BZ510071	TNAAB05003	COMPOUND TRANSISTOR
Q8508	BZ510071	TNAAB05003	COMPOUND TRANSISTOR
COILS & TRANSFORMERS			
L001	BZ310156	021375101K	COIL
L101	BZ310008	0216A6560K	COIL
L401	BZ310004	021679472K	COIL
L601	BZ310041	02167F101J	COIL
L602	BZ310156	021375101K	COIL
L801	AD301781	021673560K	COIL
L902	BZ310041	02167F101J	COIL
L904	BZ310041	02167F101J	COIL
L2001	AE000529	0216S4100J	COIL
L2002	AE000529	0216S4100J	COIL
L2004	AE000095	02167F2R7J	COIL
L3001	AD301785	02167E100K	COIL
L3002	AD301785	02167E100K	COIL
△ L3800	AE001185	028R090009	COIL,DEGAUSS
L3801	BZ310083	021676100K	COIL
△ L3802	BZ310099	029T000092	COIL,LINE FILTER
L3803	BZ310181	02A6B2E0A1	CORE,FERRITE
L4001	BZ310039	02167F220J	COIL
L4002	BZ310039	02167F220J	COIL
L4003	BZ310039	02167F220J	COIL
L4004	BZ310039	02167F220J	COIL
L4201	BZ310041	02167F101J	COIL
L4202	BZ310041	02167F101J	COIL
L4203	BZ310041	02167F101J	COIL
L4204	BZ310002	021673101K	COIL
L8501	BZ310191	02167F2R2J	COIL
L8502	BZ310191	02167F2R2J	COIL
L8503	BZ310191	02167F2R2J	COIL
L8504	BZ310118	02AHB9A972	CORE,FERRITE
L8507	BZ310191	02167F2R2J	COIL
L8509	BZ310191	02167F2R2J	COIL
T401	BZ310157	045009003J	TRANS,HORIZONTAL DRIVE
△ T3801	BZ310135	0481350574	TRANSFORMER,SWITCHING
△ T3802	AE001187	0481291124	TRANSFORMER,SWITCHING
JACKS			
△ J801	AD301147	066F120018	SOCKET,CATHODE RAY TUBE
△ J2201	BZ614361	060J131015	HEADPHONE JACK
J2202	BZ614146	060G421016	RCA JACK
J2203	BZ614147	060G421017	RCA JACK
J2204	BZ614280	060G421020	RCA JACK
△ J3801	BZ614145	0602602006	JACK DC
J4201	AD301543	060J411025	RCA JACK

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
SWITCHES			
SW2213	BZ612010	0504101T34	SWITCH,TACT
SW2214	BZ612010	0504101T34	SWITCH,TACT
SW2215	BZ612010	0504101T34	SWITCH,TACT
SW2216	BZ612010	0504101T34	SWITCH,TACT
SW2217	BZ612010	0504101T34	SWITCH,TACT
SW2218	BZ612010	0504101T34	SWITCH,TACT
SW2219	BZ612010	0504101T34	SWITCH,TACT
SW2220	BZ612010	0504101T34	SWITCH,TACT
SW2221	BZ612010	0504101T34	SWITCH,TACT
SW2223	BZ612010	0504101T34	SWITCH,TACT
VARIABLE RESISTORS			
VR401	AE001201	V1K63Q3BTE	VOLUME,SEMI FIXED
VR3801	AD301937	V1K6314BTE	VOLUME,SEMI FIXED
VR3802	BZ210068	V1163Q3BTC	VOLUME,SEMI FIXED
P.C.BOARD ASSEMBLIES			
PCB020	AE001191	A51201B020	PCB ASS'Y
PCB110	AE001192	A51201B110	PCB ASS'Y
PCB130	AE001193	A51201B130	PCB ASS'Y
PCB250	AE001194	A51201B250	PCB ASS'Y
MISCELLANEOUS			
B401	BZ310121	024HT03553	CORE,BEADS
B2001	BZ310186	024HC31022	CORE,BEADS
B2002	BZ310186	024HC31022	CORE,BEADS
B2003	BZ310186	024HC31022	CORE,BEADS
B2004	BZ310186	024HC31022	CORE,BEADS
B2005	BZ310186	024HC31022	CORE,BEADS
B2301	BZ310186	024HC31022	CORE,BEADS
B3801	BZ310129	024HT03564	CORE,BEADS
B3802	BZ310129	024HT03564	CORE,BEADS
B3803	BZ310121	024HT03553	CORE,BEADS
B3804	BZ310121	024HT03553	CORE,BEADS
B3805	BZ310122	024HT03563	CORE,BEADS
B3806	BZ310121	024HT03553	CORE,BEADS
B4002	BZ310186	024HC31022	CORE,BEADS
B4004	BZ310186	024HC31022	CORE,BEADS
B4201	BZ310121	024HT03553	CORE,BEADS
B8501	BZ310186	024HC31022	CORE,BEADS
B8502	BZ310186	024HC31022	CORE,BEADS
B8503	BZ310186	024HC31022	CORE,BEADS
B8505	BZ310122	024HT03563	CORE,BEADS
BL001	BZ310014	023C00022A	COIL BALUN
BT001	AE000012	1412004008	BATTERY,MANGAN
BT002	AE000012	1412004008	BATTERY,MANGAN
CD504	BZ614196	121B164101	CORD,CAR BATTERY
CD802	BZ614404	WDL6032038	FLAT CABLE AWM2468 A
CD803	AE001202	WBL6030038	FLAT CABLE AWM2468 A
CD805	BZ614175	06CU82039A	CORD,CONNECTOR
CP101	AE001188	069S270639	CONNECTOR PCB SIDE
CP301	AD301495	069W120019	CONNECTOR PCB SIDE
CP302	AD301495	069W120019	CONNECTOR PCB SIDE
△CP401	BZ614154	069X440029	CONNECTOR PCB SIDE
CP402	BZ614349	067U003029	WIRE HOLDER
CP403	AD300687	069S420110	CONNECTOR PCB SIDE
CP801	BZ614269	069S320010	CONNECTOR PCB SIDE
CD3001	AE001203	WFL6022038	FLAT CABLE AWM2468 A
△CD3801	AD300685	120R414903	CORD,AC BUSH
CD8501	AD301792	122H0C1001	CORD,JUMPER
CD8505	BZ614299	06CU2B2001	CORD,CONNECTOR
CP2001	AD302396	069JYOT099	CONNECTOR PCB SIDE
CP2301	AD301858	069JV80180	CONNECTOR PCB SIDE
CP2302	AD301795	069S230639	CONNECTOR PCB SIDE
CP3001	AD301944	067U008029	WIRE HOLDER
CP3802	AD300101	069R230589	CONNECTOR PCB SIDE
CP3803	AD301948	069R280589	CONNECTOR PCB SIDE
CP8001	BZ614214	069S2B0629	CONNECTOR PCB SIDE
CP8002	AD301797	069J7C0029	CONNECTOR PCB SIDE
CP802A	BZ614333	067U006049	WIRE HOLDER
CP802B	BZ614333	067U006049	WIRE HOLDER
CP803A	BZ614334	067U004029	WIRE HOLDER
CP803B	BZ614334	067U004029	WIRE HOLDER
CP8502	AD301798	069J7C0019	CONNECTOR PCB SIDE
CUS013	BZ710149	800WFAA008	CUSHION C
EL001	BZ614044	124120301A	EYE LET
			XRY20X30BD

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
MISCELLANEOUS			
EL002	BZ614043	124116281A	EYE LET
EL003	BZ614044	124120301A	EYE LET
EL004	BZ614043	124116281A	EYE LET
△F3801	BZ614504	081PC05005	FUSE
△F3802	BZ614277	0835C10003	MICRO FUSE
△FB401	AE001186	043210014F	TRANSFORMER,FLYBACK
FH3801	BZ614005	06710T0006	HOLDER,FUSE
FH3802	BZ614005	06710T0006	HOLDER,FUSE
OS2202	AE001189	077Q037007	REMOTE RECEIVER
△RY3801	BZ612011	0560V10118	RELAY
△SP301	BZ614428	070C132019	SPEAKER
△SP302	BZ614428	070C132019	SPEAKER
TM101	AD301799	076D0GD010	TRANSMITTER
△TU001	AE000273	0163300005	RF UNIT
△V801	AE001190	0981100405	CRT W/DY
X101	BZ613019	1002T01606	CERAMIC OSCILLATOR
X601	AD302003	100CT3R505	CRYSTAL
X2001	AD301802	100BT02003	CRYSTAL
X4001	AD301803	100BT02701	CRYSTAL

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
 CE..... ALUMI ELECTROLYTIC CAPACITOR
 CP..... POLYESTER CAPACITOR
 CPP..... POLYPROPYLENE CAPACITOR
 CPL..... PLASTIC CAPACITOR
 CMP..... METAL POLYESTER CAPACITOR
 CMPL..... METAL PLASTIC CAPACITOR
 CMPP..... METAL POLYPROPYLENE CAPACITOR

TOSHIBA CORPORATION

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